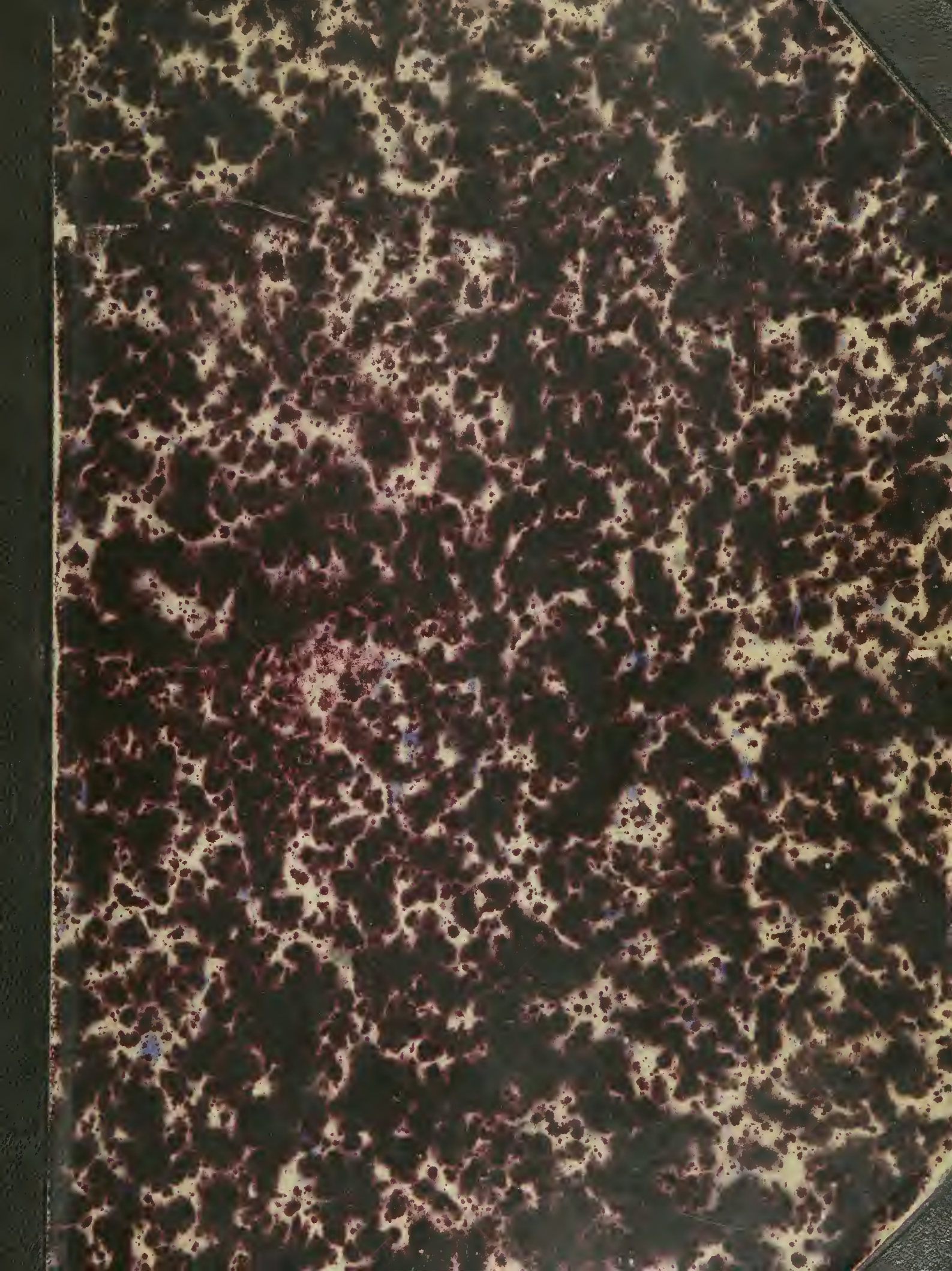

ART FOLIAGE,

FOR SCULPTURE AND DECORATION;

WITH AN ANALYSIS OF GEOMETRIC FORM,

AND

Studies from Nature, of Buds, Leaves, Flowers, and Fruit.

BY

JAMES K. COLLING, F.R.I.B.A.,

AUTHOR OF "GOTHIC ORNAMENTS," "DETAILS OF GOTHIC ARCHITECTURE," ETC.

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PREFACE.

FEELING the great importance of good foliated decoration in architecture and the subsidiary arts, I have endeavored to supply a want which has long been felt, of some definite rules and exposition of principles, which should guide the art-workman in his studies. With this object, I have sought to take a wide and comprehensive view of foliage as conventionalized for art purposes, from the earliest times, and without regard to style or epoch. The work therefore commences with an Analysis of Geometric Form which enters minutely into the composition of flat and carved decoration, as contained in diapers, borders, and centres, and as found developed in Egyptian, Assyrian, Greek, Roman, Chinese, Japanese, and Indian architecture, as well as in the Byzantine, Romanesque, and Mediæval styles.

In the second part, the object has been to offer instruction, as one might do to a pupil, by, as it were, taking the pencil out of his hand and drawing the forms before him, while at the same time fully explaining one's meaning and intention. Consequently I have sought to express my ideas upon this branch of the subject without the slightest reserve, showing how one part has been suggested, and in what manner another part has originated, dwelling upon that which I considered to be of importance in the composition, or in the disposition of parts, and whatever else might be necessary to be kept in view; in short, elucidating as far as possible the process by which I arrived at the result shown by the plates, whatever may be their merits or demerits. Hence the reason why I have chosen to illustrate this portion of the work by my own compositions. For doubtless, with much greater ease and far less trouble to myself, I could have

selected old examples for this purpose; and, had I done so, one thing is certain, I should have been more secure from the adverse judgment of a host of art critics. But I wished to teach by example as well as by precept. I have undertaken a difficult task, but have endeavored to put the student in the right way at the beginning; and, if I can but succeed in that, there can be no fear of his failing to arrive at a successful result. The second part, therefore, commences with Flat Decoration, leading on to relieved foliage, in spandrils and panels, until it attains to separate sculptured features, as, for example, in the capital of a column.

In the third part I have brought together as many of the actual Studies from Nature as could be arranged in the plates, selected from those which had been used or referred to in the second part of the work; some few examples having been given in that part as I went along. I have thus freely exhibited the materials with which I worked, as derived from nature, combined with a previous knowledge of purely conventional forms.

Throughout the whole work I have insisted upon the value of simplicity of ornamentation, so strongly convinced am I, that, from losing sight of this point, mainly arises the failure of modern ornamentation. The carver makes all his work too complicated, — complicated in lines and complicated in light and shade. He never can leave well alone, but gives himself up to an immensity of what we commonly call *niggling* work in the finishing of his ornamentation. The consequence is, as some persons have remarked, that his work really looks better half finished than when completed. In this finishing process, lines are so multiplied, and the work so split up into minute parts, that all breadth of effect is lost.

For upwards of twenty years I have been earnestly studying nature for the purpose of its application to decorative purposes; and I am more than ever of opinion, that we have not yet arrived at a true knowledge and appreciation of the artistic value of natural foliage as applied to decoration. We are far too content to adopt old conventional forms, or to remain satisfied with coarse imitations of nature.

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INTRODUCTION.

IN decoration, Nature teaches us a useful lesson; for, where not frustrated by the hand of man, she enriches and clothes every portion of the habitable globe with beautiful foliage, and always such as is best suited to the spot. No sooner does man destroy the vegetation by turning up the soil than Nature hastens again to spread her beautiful and living mantle over the fresh earth, — stretching out, as it were, her arms to cover up its nakedness. Nothing is left unadorned with beauty. Why should not we thus follow the teaching of Nature by enriching and clothing our own works with elegant foliage, instead of extending, as we do in our great cities, miles of brickwork, covered with nothing but a monotonous coating of dingy-colored cement, with long lines of plain run cornices, and with windows and doors surrounded by architraves and elaborate mouldings, which we, in our conceit, term *decoration?* No life, no thought, except for "how much it would cost per yard." Why do we not imitate Nature, by covering up our bald, plain surfaces with some species of simple design taken from her ever-living verdure? How much more elegant, and what an agreeable relief it would be to the eye, if, instead of imitating colossal blocks of stone, by scratching a few lines on the surface, they were enriched by a quiet and flat application of natural foliage. Instead of the quoin-stones of buildings, or the arch and key stones, being picked out in careful but senseless representations of rockwork or vermiculated work, how many pleasing arrangements might be introduced upon them in well-conceived foliated design! Foliage may thus be applied in the true spirit of nature to a much greater extent than has ever yet been done. Instead of the monotonous, plain mouldings so continually adopted, foliated enrichments, forming artistic pencillings of light and shade, should be more freely used, and plain wall-surfaces should be enriched by geometrically-arranged foliated diapers.

Leaves and flowers are among the most lovely objects in nature, and contain all the requisites which should be embraced by pure and true art, — harmonious color, elegant form, and brilliant light and shade. We cannot, therefore, go to a nobler fountain-head; and, so far from this source having been yet exhausted, we may there still obtain fresh elegance and beauty, with an infinite variety suited to all the purposes of the highest art. From the time

of the Egyptians and other ancient nations, decoration in architecture has been taken, almost invariably, from animal or vegetable life. The human form, as the perfection of natural beauty, has been so dwelt upon, idealized, and perfected by these artists and sculptors of old, that they have succeeded in handing down to us works of such transcendent merit that they will be guarded as treasures of art to the end of time. Nor did the inferior animals lose their share of attention; but by study and thought the inanimate stone and marble have been made to assume, by the aid of the chisel, a life which will long endure to instruct and delight. In these works the old artists were always fond of trying to create, instead of merely copying. They were not content to take nature as they found it; but they succeeded in making their statues superior to themselves, culling and blending together in one object all the beauties of form, and omitting what they considered faults or defects; in numberless instances creating new beings of their fancy by blending and amalgamating animal and even vegetable forms with the human, — birds with beasts, beasts with fishes, — nothing, it would seem, being left untried to elicit new beauty by new inventions or combinations.

But, apart from the higher class of sculpture, carved representations of natural foliage have been introduced into the decoration of architecture from the earliest ages. Fruits, flowers, leaves, and branches have been imitated in ornamental art, in the conventional spirit of the various periods, from time immemorial. Pomegranates are recorded, in the Book of Exodus, to have been worked upon the robes of the high priests: —

"And they made upon the hems of the robe pomegranates of blue and purple and scarlet, and twined linen."

It is also said that the seven-branched candlestick was expressly modelled from the almond: —

"And in the candlestick shall be four bowls, made like unto almonds, with their knops and their flowers."

The Egyptians, in their architecture, used the papyrus and the lotus, which grew in profusion on the banks of the Nile. The Greeks designed their foliage from the acanthus and honeysuckle; the Romans, from the acanthus, the vine, the olive, and the laurel. Each took that which they considered most beautiful; each dwelt upon such objects in nature as were indigenous, and grew with those glorious works of architecture which have been left for our admiration, but which, like the plants themselves, are indigenous to the soil, and have hitherto resisted every attempt at a healthful transplantation.

Classical architecture has thus been introduced among us; and the architect has hitherto been content to go on copying and recombining the foliage of the Greeks and Romans, as he finds it delineated in books, or he has been in the habit of leaving it altogether to the unskilful hands of an ordinary workman. It has not been considered worth while to refer again to nature, or even to get any further variety in form. It has been looked upon as the

perfection of "architectural foliage," the conventional forms of which have been accepted as being the highest and the most beautiful that could be attained, and it has been completely and purposely separated and cut off from the original source from which those old artists obtained their ideas. Happily, of late years, there have been many exceptions to this mode of servile copying; and the necessity has been strongly felt for searching out new developments from nature, and endeavoring to elicit fresh beauties, instead of resting satisfied with copying or recombining from that which has been handed down to us. It has been at length acknowledged that we must again have recourse to the fountain-head from which all conventional forms of foliage were originally derived; and it is now generally allowed that we cannot proceed far in the pursuit of beauty without the aid of nature.

All that we see most to admire in the foliage of the Classic or Gothic eras can be clearly traced to natural forms and natural arrangements. It is by studying how nature has been hitherto followed and adapted by the workers of old that we are enabled to improve our own ideas, and to take advantage of the natural beauties which will so abundantly spring up before our eyes. Probably in pursuing our studies, by searching into nature, we may find much that is exceedingly simple and far from new; still as every arrangement, simple as it may be, forms one in a regular chain of natural development, and as it is by following up this chain, and supplying by degrees link after link, that we gain that true feeling and knowledge of those natural laws of which we are in search, nothing should be considered too commonplace for study and examination.

"Not a beauty blows,
And not an opening blossom breathes in vain."

Often the lowliest objects and the commonest weeds contain beauties that we little dream of until we examine them minutely and diligently, and with the eye of an artist. As the poet has truly said, it is

"A search the flight of time can ne'er exhaust."

The infinity and beauty of nature in small things are most wonderful: they go far beyond our natural powers of observation. Even with the aid of the microscope, we can form no conception of the extent or termination of the minute world of beauty,—a vast world, shut out from all ordinary observation. Look, for instance, at the elegant and very suggestive forms of pollen grains when viewed under the microscope.* Who would have supposed, that, in the golden dust which we see borne away by the industrious bee, were to be found such perfect geometrically-divided globes? In the star-like crystals of snow, again, is another familiar instance of the beauty of the minute world. However, without calling in the aid of the microscope for the purpose of our studies, there is an astonishing ap-

* See the Elements of Botany, by John Lindley, M.D.

propriateness and singular beauty in some of the smallest and most humble plants, which at once point out their fitness for the purpose of the artist. M. Viollet le Duc, in his *Dictionnaire raisonné de l'Architecture*, shows that the early French artists owed the success which they achieved in their sculptured foliage to their going "into the woods and the fields, and searching under the grass for the smallest plants: they examined their shoots, their buds, their flowers, and their fruits; and, with this humble flora, they composed an infinite variety of ornaments of a grandeur of style and firmness of execution which left far behind the best examples of Romanesque sculpture." He further adds, which I give in his own words: "Soit instinct, soit raisonnement, ces artistes comprennent que les plus petites plantes, comme les insectes, sont douées d'organes relativement beaucoup plus forts que les arbres et les grands animaux; destinées à vivre dans le même milieu, à résister aux mêmes agents, la nature prévoyante a en effet donné à ses créations les plus humbles une puissance relativement supérieure à celle des grands êtres. Les formes des plus petits insectes, commes celles des plus petites plantes, ont une énergie, une pureté de lignes, une vigeur d'organisation qui se prêtent merveilleusement à exprimer la grandeur et la force; tandis qu'au contraire on remarque, dans les formes des grands végétaux particulièrement, une sorte d'indécision, de mollesse, qui ne peut fournir d'exemples à la sculpture monumentale."

Without going so far as to say that the larger forms in vegetation cannot afford fitting examples for artistic purposes, yet nothing can be more true than that it is among the smallest and the most humble weeds, which are every day growing under our feet or concealed among the grass, that we must make our search, as these old artists have done before us, if we wish to ingraft fresh beauties upon art. But the copyist may say he can see no beauty in thistles and docks and buttercups. Yes: but how do you look at them? They must be studied attentively and assiduously, and then I will ask, "Can you see no vigor of form in these lowly outcasts, — the very power of which you are in search to give life to your own works; no beauty in the thistle, with its sturdy stem, its ever-varying form, in its energetically-spiked leaves, its great variety of light and shade? Look again at its flower; set like an amethyst among its green ray of spines: and the common creeping crowfoot, too, that pest to the farmer, that insinuates its roots unseen beneath the ground to throw up its elegantly-formed leaves in every vacant space, to teach a simple lesson of beauty." But all this is lost upon us! We see not the elegance in these homely things, because we look upon them as if we were blind! We are so accustomed to them, and they are so common and vulgar, that we consider them not worth a thought, much less a careful examination. If we think of studying nature, we want to go into fine gardens and magnificent greenhouses to see rare exotics, and flowers which are highly prized by gardeners, as if it were only there that the beauties of nature dwell; forgetting that God in his munificence has made some of the most lowly the most beautiful!

"There's beauty all around our paths, if but our watchful eyes
Can trace it 'midst familiar things and through their lowly guise."

HEMANS.

In England, perhaps, no architectural foliage has ever excelled that of the Early English period: for purity of line, boldness of treatment, and fine effects of light and shade, it stands pre-eminent. It is, however, highly conventional, and there is great danger in foliage becoming too highly conventionalized: it gets reduced to certain set forms, and similarity in the manner of treatment. Nature becomes at length to be dispensed with, and then the artist falls into repetition. The Early English foliage is very beautiful, but too conventional for the purposes of modern art: it is ingrafted with and forms a portion of the architecture of the thirteenth century. We can therefore only use it in the nineteenth as a resuscitation, or a revival; but it can never form a part of the architecture of the present age. The artists of the latter part of the thirteenth or the beginning of the fourteenth century appear to have seen the danger of their ornamentation becoming too conventional, and resolutely went forth again to seek the aid of nature. During the short period which followed, therefore, and which has been called the Early Decorated, foliage was taken more directly from nature; but it was scarcely developed before it became overloaded with light and shade, and elaborate undulations on the surface of the leaves. At length it arrived — although not without many burstings-forth in great beauty — at the formal and purely conventional foliage of the fifteenth century.

To the Early Decorated period particularly, I would wish to draw especial attention, as it is well worthy of being most carefully studied. It was a time when artists left their more strictly conventional creations, and sought again the aid of nature, which they followed in all its freshness and purity. The foliage, however, of this period has been considered by some to be too natural, — too literal a rendering of nature. Yet we find in nature some of the most pleasing and elegant forms which can be conceived, — forms which appear never to tire the eye; and, if so, why is it not perfectly legitimate, and in accordance with all the rules of art, to take advantage of them. It is utterly impossible, for instance, for man to invent a more elegant form of leaf than that of the maple; yet, in applying it for artistic purposes, it is not at all necessary to adhere to it strictly. It can be altered and made more symmetrical or regular, until it becomes a purely architectural leaf, based only upon that of the maple. The first time that I observed such foliage, now nearly twenty years ago, was at Southwell Minster, when I caught sight of the maple-leaf ornament,* in the arch of the doorway leading to the chapter-house, through an open window. I was so struck with its delicate crispness, and beauty of form, united to its wonderful freedom and artistic balance of light and shade, that I still have a vivid remembrance of its brilliancy and elegance. It

* See vol. i. Colling's Gothic Ornaments.

had no confused appearance, no straining after light and shade by the contortion and twisting of the surface of the leaves, as with the foliage later in the style. There was nothing to disturb the repose of the architecture. All was bright and sparkling, teeming naturally with the life stamped upon it by the hands of the mason nearly six hundred years ago. It is not a literal copying of nature; but there is in those stones an enduring life, which has been transplanted from the very hedgerows and fields that surround that old minster, where they still continue to burst forth in spring, as they did of yore, and to develop and expand the same forms which were expanded under the eyes of the workmen of this very doorway. We can see what these old masons admired, the beauty they sought after, and how they have shown in stone their love of their native land, and of their own simple native foliage. The very stone has written upon it, "My son, your fathers have wrought thus with their hands, go thou and do likewise; copy not our works, but go to that source which thou seest we loved and reverenced; study, as we studied, the works of thy Creator; and, moreover, make thy work characteristic of thy country, which thou shouldst love, and of thy day, which thou shouldst stamp as thine own."

These old artists adhered to the indigenous flora of their country, and we should do the same; but we have a much wider field than they had, as there are hundreds of elegant plants and trees which now have become naturalized to this country, or are otherwise perfectly familiar to us, of which they had no conception. We therefore have a much wider range than they had, and should produce a corresponding extension in beauty and variety. Why do we follow so much that which has already been done? Are we to acknowledge to ourselves that we cannot do so well, and therefore must be content with copying? Poets and painters cannot copy what has been done in their arts in former times. They are bound to produce new works, containing fresh ideas and new thoughts. Then why should the architect go on copying?

If we are to have a new style for the nineteenth century, foliage must play an important part; but it must be invigorated and renewed by fresh inspirations from nature.

In the designs which are given in the second part of the work upon the subject of "Art Foliage," although not offered as being free from faults, it is attempted to show that there is still abundant freshness to be obtained in the application of natural foliage. They are designed from nature, or upon natural principles; and the object is to endeavor to explain those principles, and to point out what must, of necessity, be the only true path which can ever lead to excellence. Hitherto all attempts of designing directly from nature have been condemned as "naturalism." What that means is not very clear, but those who condemn what they call "naturalism" assert that all architectural enrichment must be "purely conventional." Is it meant that it cannot also be natural? The problem to be

solved is to make foliage conventional but natural at the same time. Nature must be followed as a guide, a principle, and wherever her laws are infringed the work will become unnatural; and what is unnatural must be more or less ugliness.

It is a difficult matter to lay down rules to say how far nature shall be adhered to, or how far it shall be departed from. It must, in a great measure, be left to the skill and fancy of the designer. Literal imitations from nature will never constitute architectural ornament. Natural foliage, however well rendered or cunningly carved, if merely copied from nature without being translated by the mind of the artist, will fail entirely in its purpose, and be less effective than the literal copyism of the foliage from any of our architectural precedents. This cannot be too strongly insisted upon, because, if we tell our artists that they should not copy from old examples, but simply say, as it has often been said, that they should "go to nature," we should soon be so deluged by literal representations of natural foliage, that this system of copyism would become worse than the first. In the rendering, then, of natural into decorative foliage, there must be study and thought, with life and beauty. It must be the creation of the artist's mind, and not a copy of this plant or that flower. It may be composed of the beauties of one added to other parts, which are more applicable to the purpose in view, which belong to another; but it must be put together "naturally," and yet "conventionally," so as to accord with the architecture around it. In the same way that the old sculptors endeavored to amalgamate all the beauties of the human form into one statue, so must all the beauties of vegetable nature be enlisted in the designing of architectural enrichments. What is taken from one may be added to another, and whatever is not applicable may be entirely omitted.

In the treatment of foliage for the purpose of art, it must, more or less, always be made geometrical, and arranged with symmetry in accordance with its situation and purpose. One of the first things to be studied is the arrangement of the branches which constitute the leading lines. These form the skeleton upon which the whole is formed, and they should be made such as will best harmonize or contrast with the architectural or other lines which surround the composition. In the second place, the forms of the leaves and flowers have to be considered, and to be altered or adapted from nature as circumstances may require. In the third place, and one of the most important points requiring great study and consideration, is the effective arrangement of the light and shade. Then there is the position it is intended to occupy, whether internally or externally; whether it has to be placed close to the eye or at a height; and, lastly, the material in which the ornament has to be executed.

But, for the beauty of our foliage, we can only appeal to one source, for there cannot be a doubt as to the existence of "the beautiful" in nature; for all our ideas and notions of beauty in the abstract must be founded upon nature: but, although every thing is beautiful

in some way or other, yet we draw an immense distinction between the different kinds of beauty. One object is beautiful for one thing, and another for another. Other objects, again, we denominate "very ugly," but it is only so by comparison. In some respects they will be beautiful. For instance, the form in two objects — when compared, the one strikes us as being graceful and elegant, and we say "it is beautiful," while, in the other, the form is awkward and ungainly, and we at once term it "ugliness;" but in colour, or internal construction, or in some other manner, that which we termed "ugly" must be beautiful. Everything in nature has some redeeming feature.

It is not so in art. A work of art depends more upon one kind of beauty — beauty in one direction only — and its powers of pleasing are limited, and should it miss the one object or intention, it becomes an unmeaning and useless work, and not a work of art. It therefore behooves us to be extremely careful in selecting from nature, and the eye must be educated by constant study and examination of the best works of the old artists, so that it may become facile in appreciating that which is in nature suitable for the purpose required. In the class of art subjects of which I purpose treating, the object, and expression too, are very limited, forming as they do but parts of a whole, as one bone forms a part of a whole skeleton. It is very important as a part of the whole work, while in itself it may be of little value. This fact shews the necessity for these disjointed parts, as they may be called, being studied in every possible way; and too much thought cannot be given to the situation of the ornament, and the effect it is intended to produce when viewed in connection with all the other features which would surround it. The difficulty is to seize upon the beauty which we recognize and accept as beauty in nature, and so adapt it to our purpose that our sculptured ornaments may not only tell their own tale, but add to the general beauty of the work when they are in position. Ornament may be very good, but it may be thrown away by being either put in the wrong place, or its not being fit and suitable for its situation. The height, therefore, at which work is intended to be placed should be constantly kept in view. It must necessarily follow that an ornament, if intended to be placed 30 feet high, should have fewer lines, and should be more simple in composition, than when arranged to be placed near the level of the eye — and, if intended for a greater height, should, of course, be of greater simplicity still.

In the architectural foliage and enrichments of the best periods, the simplification and breadth of light and shade, according to distance and height, were carefully attended to and studied; and existing examples cannot be too attentively examined in this respect by those who desire to be successful in the application of natural foliage. I cannot but here repeat, for I wish it to be clearly understood, that the designs given by me are not offered so much as perfect examples to be literally copied by those who may require them, but more as suggestions, with an endeavour to elucidate certain natural principles, and also as inducements for artists themselves to examine more into nature. The subject is an

important one, and I feel strongly upon this point, that we should not go on merely copying from old examples. I was delighted to see how enthusiastically Mr. Gilbert Scott advocated the study of nature in his lecture lately given before the Architectural Association, March 11th, 1864: —

"Closely as we ought to study the finest works of the best periods of our art, and all important as are the lessons to be derived from them (and I may say indispensable as is the necessity of our linking our own art on to that of the past) I nevertheless assert that if we do this without reverting — and that in all earnestness and determination — to the works of nature as the great guides and suggestors of art, our efforts will produce mere lifeless results. I urge, then, a careful training of our architects to the study of the productions of vegetable nature, with a direct practical reference to their uses in architectural work." And again — "The very habits of plants, — the forms they assume under different circumstances and conditions, and in different positions, should be thoroughly studied and rendered familiar to the mind, and that quite independently of the question whether we make use of the lessons thus learned in a direct or conventionalized form; for, if the conventional be not founded on or quickened by an appreciation of the natural, it will, depend upon it, be a mere dead reproduction."

These words are important, and encouraging, coming from such a source, and agreeing as they do so closely with my own ideas, therefore I have quoted them.

The study of nature, however, has a vast charm in itself independently of its study in connection with the arts. One cannot go into the fields or into the woods without at once seeing before him an open book — the grand old book of nature — in which, if he will but take the trouble to understand, he can at all times read with pleasure, and from which he will experience the most exquisite enjoyment. He soon becomes lost and charmed, beyond expression, with the beauties which surround him in these lovely works of his Creator, and which we all attempt rudely to imitate at a humble distance, to enrich our own works.

The Mediæval artists were probably far greater lovers of nature than we are, and no doubt searched more into its mysteries than we do in this money-getting age. As an indication that vegetation was much studied and loved by our forefathers, may be instanced the many quaintly poetical old English names of plants which have been handed down to us, but which, unfortunately, are now fast falling into disuse. Our modern books on Botany are dry, hard, learned, and scientific, but do not develop much of the poetry of the vegetable kingdom.

One of the most extraordinary circumstances in nature, and one which produces a constant charm, is the finding out by study that nature is highly geometrical and regular, and yet, at the same time, it is so full of minor irregularities that they effectually conceal any stiffness, or too great a precision in the development and expanding of its various parts. As was aptly observed by Professor Kerr, upon the occasion of my reading a Paper upon the subject at the Institute of British Architects, "regularity in nature was carried out with, one might almost say, invariable irregularity, and in foliage there were two principles in constant operation, one being the regularity with which every object had been designed, the other the irregularity with which it was developed." The branching of trees takes place upon perfectly regular plans, yet what in the development, during the progress of growth, can be more irregular? The forms of leaves and flowers

are highly geometrical, and are formed upon the triangle, the square, tne pentagon, &c., yet all are so modified and the variety is so great, that no two leaves or flowers can be found precisely alike. Where less severity, therefore, is desired in ornamentation, this principle in nature may be legitimately adopted by the artist. The strictly geometrical lines may be concealed by minor irregularities, as is the case in nature.

In the study of any definite subject it is always necessary to go back, if possible, to all first attempts, for in these we often see a vigor and an amount of thought for which we look in vain in later developments. In these early works we see clearly what those first workers thought, and what they attempted to express. In almost all late work, we have but too often mere second-hand variations upon that which was done by the earlier craftsmen, and by far, too finished representations of the original thought, which was usually stamped with vigor and decision, although the mere execution might be rough. Most late work shows a wonderful advance in skill, but not in art. We should strenuously endeavor to avoid this pitfall. Let us henceforth appeal more to the head, the hand, and the chisel, rather than to glass-paper and finish! Let us have sharpness and decision, in preference to smoothness and minutiæ! — the vigor of life and thought, and not the tameness or pallid beauty of death!

I have, therefore, constantly sought to illustrate my meaning, and to elucidate the principles of art, by reference to early work. I have sought for the germ of beauty in art form, among the works of the Egyptian and the Assyrian; the Romanesque, the Byzantine, and the Norman; and the Early Gothic of the 13th and 14th centuries; for in these earlier developments, where men appear to have thought for themselves, I believe it is to be found. There is also much that is excellent in design and extremely pure in art, by the study of which we may gain variety of thought, and of a more primitive art feeling, in the works of the Chinese, the Japanese, and the Indian. In many of their designs, although of the present time, in consequence, perhaps, of the slower growth of ideas, or a greater retention of the original thought, or whatever may be the cause, they still retain a feeling for true art principles which may put many of our own attempts to shame. We may see in their quiet and often truthful works a great contrast to our ever restless tastes and constant craving for novelty, no matter of what form, a restlessness which, if not guarded against, will form the bane of all true art! We may see in the works of these truly original nations much pure art, combined with simplicity of thought, simplicity of design, and simplicity of execution; while, unfortunately, our modern civilization leads to the neglect of true art, by running into complication of form, intricacy of design, and extreme delicacy of execution! — finish that will destroy art even in the happiest creation! Another circumstance which militates against the cultivation of art, is our modern contract mode of carrying out everything connected with building and decoration — a system in which men will not allow themselves time for thought, their whole object being to hasten forward to make money!

PART I.—ANALYSIS OF FORM.

CHAPTER I.

Elementary Principles.

PREVIOUS to studying the great variety which exists in the combination of all kinds of ornamentation, it becomes necessary to examine the nature of form when reduced by analysis to its first and most simple principles. The value of the analytical process in chemistry and other sciences, for the purpose of discovering the elements of organic and other substances, and from which to trace their gradual development, has been long acknowledged and successfully acted upon. If, therefore, we can apply the same process to ornamental form, and truly "begin at the beginning," we shall certainly obtain a mastery and power over all subsequent combinations, which could not be so easily gained by any other method. The arts, as well as the sciences, should be approached by first becoming well acquainted with their elementary constituents, and by eliciting their several powers, gradually to follow their compound formations and numerous ramifications. For, undoubtedly, from the most simple geometrical figures, issue the means of producing every species of agreeable form and pleasing combinations of lines. It is particularly necessary to observe, how the same forms and lines, have been used at various and most distant periods in the progress of art, even from the time of the Egyptians and the Assyrians, so that by contrasting the different modes of treatment of the same elementary forms, we may see what variety has been evolved, or how often the result has led to similarity.

The principles of geometrical ornamentation are the same in all styles, and the most elementary combinations are to be found, more or less, at every period. Although there is a wide and marked difference between the styles in the architecture of different ages, still it is extraordinary how the forms used have led to similar ornamentation, varying only in its peculiar conventionality. This may be seen by comparing some of the Chinese, Japanese, and Indian lines of ornamentation, with Romanesque and Gothic forms. In the Japanese especially, in which we frequently meet with the most elegant art treatment, the conventional forms, as rendered from nature, approach very closely to some of the very best of our Mediæval work. The fact is, that the geometrical elements, and the fundamental principles upon which all art is based, are to be found throughout

nature in every part of the globe, and earnest students of nature, of whatever period or position, will, to a certain extent, independently of each other, arrive at somewhat similar results.

Instead of wasting time in disputing what particular style of architecture is best, or most suited to the present age, and fiercely waging what is called "the battle of the styles," if a search were made dispassionately into what constituted "the beautiful" in all of them, we might elicit materials for a new and independent style. In the Egyptian, for instance, all the ornaments are of the most simple and elementary kind, a repetition, perhaps, of a mere circle or square, or of a lily-formed figure; yet the effect is always agreeable, and from its simplicity the eye is not fatigued. Look at a mummy case; every part may be literally covered with ornamentation, yet all is simple, quiet, and in perfect good keeping How different, in comparison with the forms in the later "Renaissance" styles, where the lines are of such an extraordinary and complicated character that the eye is distressed at a mere glance at them, and, unless they are attacked and worked out after the manner of a puzzle, the examination is given up in despair. This is too often the effect of modern work. Works embracing enormous labor strike us only with the greatest indifference.

The combinations of form have been compared to the science of music, and although some analogy may certainly be shewn, yet it cannot be carried very far, and if persisted in, it is more likely to lead us astray than in any way to assist. They are separate and distinct in most of their fundamental principles, and therefore the study of each is much better pursued separately.

We are told that, mathematically, lines have "neither breadth nor thickness." Still, every one knows practically, what is called a line, and that we have thick ones and thin ones, straight and curved lines; and that all forms are bounded by lines. Further, we see what we call "beauty of line," or "bad lines," even in a piece of sculpture, where there are no lines whatever, except the form or contour of the object itself. All curved and straight lines, of whatever kind, are based upon the simple geometrical forms of the triangle, the square, the pentagon, and the circle, with their compounds, the hexagon, octagon, decagon, ellipse, parabola and hyperbola, as also some few others, which are very seldom used. Indeed, several of these are used but occasionally. The principal forms used in combination are the three simple elementary figures, the triangle, square and circle; with their compounds, the hexagon, octagon and ellipse.

All compound curved figures are more or less based upon the circle. The circle, when combined with the triangle as a solid, forms a cone, from which is obtained the elliptic, parabolic and hyperbolic curves; as well as the spiral, which is produced by an oblique continuous line wound round the cone. They are, therefore, in some degree evolved from the circle. Much has been said about the subtlety and beauty of compound curves, and of the circular being the least beautiful, but why it is so, is not so

very clear. The more subtle compounds, although beautiful when properly applied, are of very exceptional use, and become positively absurd when improperly applied. That form is the most beautiful which is the best adapted for the purpose intended, and all beauty must be relative and depending upon the harmonious use made of certain elementary or compound forms. Now, as the circle is used very much oftener than either of its compounds, and the only form which properly is applicable, it must be the most beautiful in all such cases. This occurring so continually must necessarily raise it very high in the scale of beauty.

Geometrical lines and forms are applied in decoration mainly for three distinct purposes. First, they serve to divide surfaces into separate parts by combination and repetition of forms, upon which to apply foliated or other ornamentation — technically called diaper-work. Second, by repetition of form in one continuous direction only, and applied to borders, margins, mouldings, stringcourses, and the like. Third, by radiation from a centre, or on each side of a centre line, as applied to centres of panels, flowers, bosses, and other similar purposes. Geometric ornamentation, therefore, may be considered under three separate heads — Diapers, Borders, and Centres.

CHAPTER II.

DIAPERS.

OF the four elementary forms, the triangle, square, pentagon, and circle, the two first only will combine and cover a surface without leaving unequal interstices between them, as shewn by Nos. 1 and 20,* Plate 1. These two figures therefore, in combination with the circle, are chiefly used for surface decoration. By substituting the curved for straight lines a variety of compound forms can be produced. Woodcut, Fig. 1,* consists of arcs of the circle struck from the points of equilateral triangles, giving an imbricated or scale form. This may again be subdivided by being trefoiled, as in the diaper given at Plate 18. If half the breadth of the triangle is taken, and an arc struck from each point and joined together, it gives the ordinary form of the "decorated" net tracery, shewn by woodcut, Fig 2. Fig. 3 is a

FIG. 1.

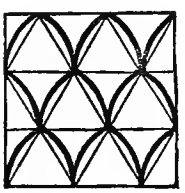


FIG. 2.

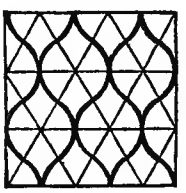


FIG. 3.

FIG. 4.

FIG. 5.

combination of triangle, diamond, and hexagon, used commonly for tile and Mosaic pavements, and will admit again of a great variety of arrangement. Fig. 4 consists of a circle struck from every point of the triangle. It is the form of an Assyrian diaper, executed in stone, and now in the British Museum. It is nothing but a repetition of the ordinary kite star, well known to every schoolboy; but it is interesting to see at what an early period it was used for the decoration of surface. Fig. 5 is a hexagonal combination of diamonds or double triangles, forming the isometrical projection of the cube, and was a favourite form for eighteenth century marble pavements, executed in white, black, and dove-colored marble — an uncomfortable and very objectionable pattern for flooring, from the fact of its never looking flat. The cubes are always rising up before one like so many solid paving stones.

Plate 1 gives other variations upon the equilateral triangle; No. 1, a useful form

* Throughout the work, Nos. refer to the Plates and Figs. to the Woodcuts.

of stone diaper, with flowers in the alternate triangles; No. 4 is somewhat similar, with the sides of the triangles curved — another variation of woodcut Fig. 1; No. 5, Plate 1, a Roman example, on the same form; No. 2, Indian triangular diaper; No. 3, Mosaic inlay; No. 6, Hexagonal, Chinese; No. 7, the form of the Canterbury wall diaper; No. 8, diamond, with small diamonds at the intersections; Nos. 9, 10, variations upon the diamond and net tracery forms for glazing; Nos. 11, 12, Chinese, from vases; No. 13, Japanese, a very beautiful and ingenious combination upon the equilateral triangle.

The number of variations which can be produced upon the square form, and the square in combination with the circle, is still greater than upon the triangle. The most simple square diaper is black and white alternate squares, like a chess-board or chequers. The next is that of blacking the half-squares, as in woodcut, Fig. 6. This may have

FIG. 6.

FIG. 7.

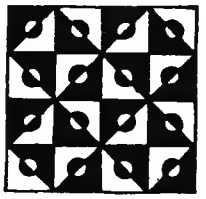
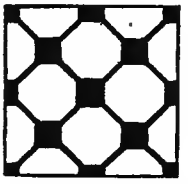


FIG. 8.



been suggested originally by the fir-cone, which it much resembles. Another half square diaper is with circles placed in the centres of the squares and the colours counterchanged as in Fig. 7, taken from paving found represented in stained glass. There is a curious property in the division of the square which is worth noticing, as it exists in no other figure. If it be divided diagonally, two equal right-angled triangles are produced; if divided from the opposite angles, four right-angled triangles; if again by perpendicular and horizontal lines, eight, and so on. Every time it is again subdivided the result is always right-angled triangles, no matter how often the process is repeated. Fig. 8 consists of small squares placed at the intersections of larger ones, arranged diagonally — or, in other words, if octagons are placed together, they will leave square interstices. Fig. 9 is a variation, by placing the small squares on the sides of

FIG. 9.

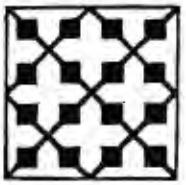


FIG. 10.

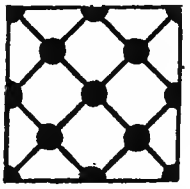


FIG. 11.

the larger ones, giving a series of cross forms. Fig. 10 has a circle at the intersection of the squares. The diapers given at Plate 13 are arranged in this manner. Fig. 11 is a Chinese diaper, arranged in diagonal squares, having internal crosses. These are simple block forms, upon which many others may be arranged. Plate 1, No. 14, is a

Norman interlacing ribbon diaper from Rochester Cathedral; No. 15, Chinese; No. 16, parquetry or glazing; Nos. 17, 18, 19, wall papers; No. 29, ivory carving — circle and square; No. 30, Chinese — octagon and square. The beautiful four-leaved square Early English stone diapers, as at Westminster Abbey, are too well known to need illustrating; No. 20, however, is a Norman diaper of a similar description, with the alternate squares divided into four; No. 32 is somewhat similar for wall painting; No. 21 has each alternate square occupied by semicircles, the result being quatrefoils and squares. Plate 12 contains two diapers upon this form with quatrefoils, one detached, and connected by straight bars. Plate 1, No. 22, contains four semicircles in each alternate square, detached and giving the usual square-angled quatrefoil. No. 23 consists of interlacing circles turned on squares as centres, resulting in the usual Mediæval four-leaved or embroidery pattern.

This form is found used in various ways in nearly every style of architecture. It was frequent in Roman Mosaic pavements. Nos. 24, 25, 28, are Chinese versions upon the same form, taken from vases. The originals of all the Chinese patterns are drawn by hand, and are not set out geometrically. Although apparently intricate, it is surprising to see how well the geometrical forms are preserved — showing how easy it is to delineate even the most intricate forms by eye, when by practice the hand detects the quickest way of expressing the form. No. 26 is a Gothic version of the same lines; No. 27, the same form overlaid and crossing itself, giving crossed vesicas. No. 31 has circles upon the sides of diagonal squares, giving crosses and roses, being No. 22 with the circles completed. No. 33 is the ordinary half-circle imbricated pattern — a favorite form in nearly all styles; No. 34, an interlaced Gothic diaper on the same form; No. 35, another early variation from Bayeux Cathedral; No. 36, Indian; No. 37, Neapolitan paving tiles, having a cross on each tile; No. 38, diagonal crosses on squares; No. 39, Gothic, the wave-line interlacing squares horizontally and vertically; Nos. 40, 41, 42, Indian carved diapers. Fig. 12 gives another variation upon Nos. 37 and 38 combining the cross and eight-pointed star.

Fig. 12.

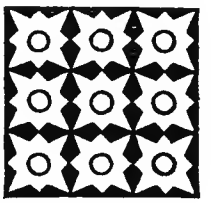


Plate 2, No. 1, painted line diaper, shewing the same simple form as No. 00. Plate 1, worked by double lines, leaving a hollow square at the angles filled with a square flower. Plate 2, No. 2, another diaper in the same manner, putting the small squares at the sides instead of the angles as in woodcut, Fig. 9. No. 3, inlaid marble pavement from St. Vitale, Ravenna, being the same form as No. 29, Plate 1, with the lines interlacing. No. 4, Plate 2, parquetry pattern, octagonal star touching at the points, with lines continuous and interlacing. This form is also of frequent occurrence in Moorish wall decoration; the same as No. 2, it is based on woodcut, Fig. 9, Nos. 5 and 6, Norman stone diapers, from Rochester Cathedral. No. 7, Early form of diaper, diagonal squares with double interlacing lines. No. 8, octagons, arranged angularly

with circles filling the interstices. No. 9, Mediæval four-way guilloche. No. 10, tile paving, from Prior Crauden's Chapel, Ely — circles, with small ones at the intersections. No. 11, Indian diaper — the lines are a variation upon the Mediæval net tracery, woodcut Fig. 2. The same variation is occasionally to be found in Gothic tracery, and the line again may be seen upon Italian enriched quarter-round mouldings. No. 12, Mosaic inlay on the pentagon and pentagonal star, serves to shew how limited are the combinations of any other geometrical forms than the triangle, square, and circle. The pentagon is a beautiful form in itself, and is above all others the flower or star form in nature; but it does not combine easily for surface decoration.

Upon carefully analyzing and examining the principles of the figures, it will be seen how they run into, and blend with one another, requiring sometimes only the change of a single line, altering the radius of a circle, or the position of a part of the figure, to give an entirely new form of diaper, which to the common observer, would apparently, have no relation to each other. Let us take, for example, the combinations of the square and circle, and we shall at once see how simple these changes are. No. 32 (Plate 1) consists of circles traced in alternate squares. Now, if the radius of the circle be increased to the angle of the square, we get an entirely new form; being squares within circles, as shewn by woodcut, Fig. 13. Reverse two of the arcs upon the square, and it produces the cross wave line, No. 39 (Plate 1). Complete the whole of the circle, and it gives No. 23; double them, No. 27; substitute octagons for the circles of No. 23, and we arrive at No. 37.

Again proceeding from No. 32, by filling in the whole of the squares with circles and smaller ones for centres, as in woodcut Fig. 14, we have its most elementary form, consisting of circles within squares, the type of Nos. 29, 30 (Plate 1), and Nos. 3, 7, 9, 10 (Plate 2). Cut four squares out of Fig. 14, and we get Fig. 15, which may indicate

Fig. 13.

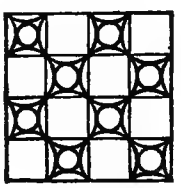


Fig. 14.

Fig. 15.

Fig. 16.

quatrefoils with square roses within them. Apply the circles to the sides of the squares instead of the angles, and we arrive at No. 21 (Plate 1); by reducing the semicircles, to No. 22. Complete the circles, and we get No. 31. If the semicircles of No. 21 be alternated and made continuous, as a cross wave line, we have the form of a diaper found in Roman mosaic pavements, Fig. 16. This again is but a variation upon the imbricated pattern, No. 33 (Plate 1). Complete the circles in Fig. 16 and No. 33, and we are back to No. 23. Fig. 16 is also the same as No. 39 (Plate 1), except that semicircles are substituted for segments. Other changes and variations may be still further made upon the whole of the

figures. giving altogether a vast field of geometric form. Many of the figures can be again varied, by introducing the knee in the wave line, as at No. 11 (Plate 2), or the angle in the trefoil and quatrefoil forms, as at No. 22 (Plate 1), or by interlacing, as at Nos. 3, 4 and 7 (Plate 2).

The fret has been occasionally used as a diaper by Mediæval architects, who introduced the principle in their floors, by forming large fretlike patterns called mazes or labyrinths. A representation of one of this kind is given by Monsieur de Caumont, in his *Abécédaire d' Archéologie,* as having existed in the Church of St. Bertin, at St. Omer, but is now destroyed.

Fig. 17.

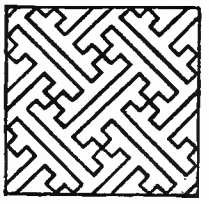
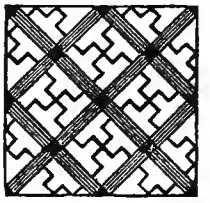


Fig. 18.

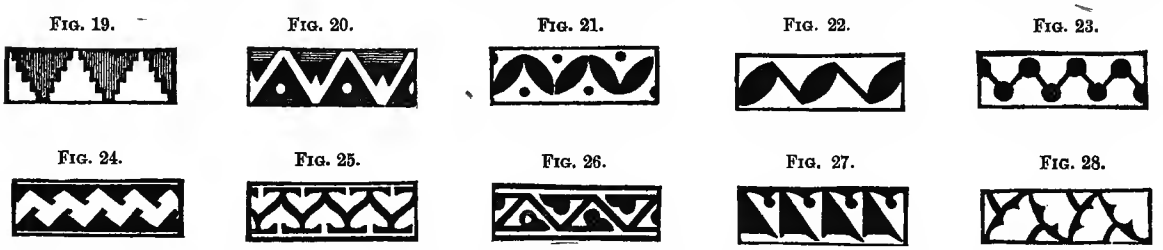


The Chinese, who have been great in frets, have succeeded in making a very ingenious combination of the fret as a diaper, as shewn by Fig. 17, looking very much like a Chinese puzzle, but which, in reality, is simple enough when its principle of setting out is seen as in Fig. 18. It consists of squares with the alternate crossing lines omitted. No. 15 (Plate 1) is a Chinese diaper upon the same lines.

CHAPTER III.

BORDERS.

MOST of the forms which are used in diapers are also applicable to geometrical ornamentation in mouldings, stringcourses, enriched bands, and other similar positions — more conveniently classed under the general head of Borders. For this purpose diapers may be usually read two ways — horizontally and diagonally, cutting the diaper in slips at such parts as may best suit the purpose intended. One of the most universal, and at the same time one of the most primitive forms to be found used as a border in decoration, is the zig-zag. Its use is much older than the triangular diaper, of which it may be said to form a part. It is to be found, as given by the woodcut Fig. 19, in Assyrian, Roman, Moorish and Venetian architecture; as shown by Fig. 20 in the Egyptian; and it is to be seen under different modes of treatment in, probably, every known style of architecture.



Figs. 21, 22, 23, are Etruscan zig-zags, the first also forming a portion of the common embroidery pattern, already given in the diapers; Fig. 24, Spanish; Fig. 25, Italian, with reversed curves, being a horizontal portion of the lines of the Mediæval net tracery; Figs. 26, 27, 28, Gothic, the last figure having curved lines substituted for straight.

Plate 3 contains other examples of triangularly arranged borders of the zig-zag type in several styles. No. 1, alternate leaf-buds dovetailing into each other in flat Mediæval work. No. 2, a similar arrangement curved and trefoiled. Nos. 3, 5, 6, 15, Byzantine flat foliage arranged in zig-zag. No. 4, Indian. No. 7, Chinese. No. 8, Etruscan. Nos. 9, 10, 11, small incised angular ornaments. No. 12, from ivory carving, Twelfth Century. Nos. 13, 14, Gothic inlay. No. 16, Byzantine, buds arranged upon diamond form or double triangle. No. 17, foliage, with one side of equilateral triangle curved. No. 18, ditto, with two sides curved. No. 19, Japanese arrangement upon the

same form as the last. No. 20, Indian border, with triangular flowers. Several other zig-zag arrangements are given in Plates 19, 39, 40, and 49.

Taking the square as a starting point for continuous ornamentation in borders, mouldings, and the like, in the same manner as with the triangle in the last plate, the first most simple treatment, is to alternate the squares by means of colour or light and shade, as in the Egyptian, the Assyrian, and also in the Norman billet moulding, see woodcut, Fig. 29. Again the simple squares may be divided vertically, as in the Egyptian, Fig. 30; or circles substituted for squares, also Egyptian, Fig. 31. The two last, if mixed together, give the form of the "bead and button" of the Classic. Semicircles in place of the squares, as Fig. 32, Etruscan, indicate the type of the Classic

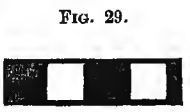


Fig. 29.

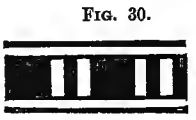


Fig. 30.

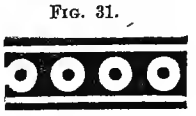


Fig. 31.

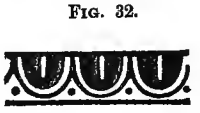


Fig. 32.

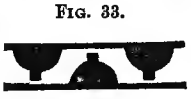


Fig. 33.

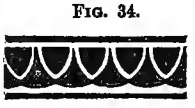


Fig. 34.


Fig. 35.


Fig. 36.

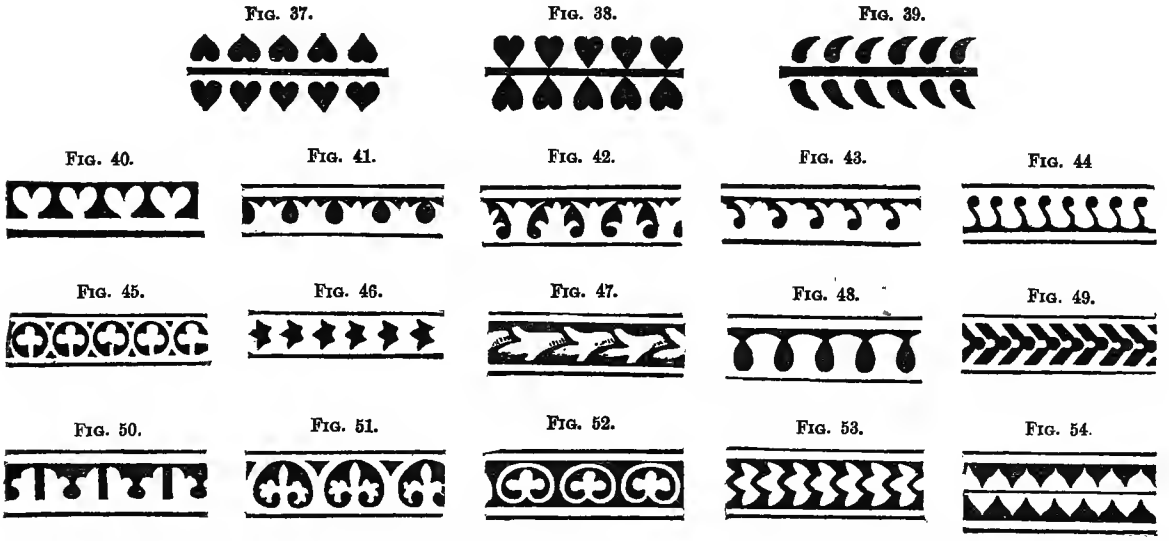
"egg and tongue." Alternately reversed semicircles, Fig. 33, give another form of simple Etruscan ornamentation. Interlacing semicircles, Fig. 34, Egyptian. Reversed semicircles, Fig. 35, Gothic. Alternation of vertical black lines, Fig. 36, as frequently found in Egyptian, Chinese, and Etruscan, and probably was the origin of the Classic fret.

Upon these simple square and rectangular divisions are arranged a multitude of other forms of borders, more or less complicated, particularly in the Classic styles of architecture. There is often a considerable resemblance between some Egyptian ornamentation and early Norman work; and it is remarkable, how often again many of the same forms appear in Indian, Chinese, and Japanese ornamentation. The similarity in the Norman is, no doubt, gained from the classic origin of the Early Mediæval and Byzantine styles of architecture. The Indian and Chinese would, however, point to a much earlier origin; probably to a primitive style of architecture which may have become entirely lost — earlier even than the Egyptian — the seeds of which may have been disseminated to many distant parts of the world, as early, perhaps, as the destruction of the Tower of Babel. The researches into the history of early languages "prove that there is a relationship between the language of the Greeks and the ancient Hindus; that before the Hindus migrated to the southern peninsula of Asia, and before the Greeks and Germans had trodden the soil of Europe, the common ancestors of these three races spoke one and the same language." "That long before the earliest documents of Sanskrit, which go back to 1500 B.C., long before Homer, long before the first appearance of Latin, Celtic, German, and Sclavonic speech, there must have been an earlier

and more primitive language, the fountain head of all."* If this was the case in language, it was probably the same in architecture; and that, therefore, the Egyptian, the Assyrian, and the Greek, as well as the Chinese, the Japanese, and the Indian, may all have proceeded from one and the same, but a still more ancient and primitive style, which has become lost to us. However this may be, it will be at once seen from the examples which are given from the decoration of various countries, that there is frequently a singular similarity, but whether this arises from accident or from some common fountain head is not easy to determine.

In plate 4 are other examples for borders, founded upon square or rectangular divisions, repeated or added one to another. No. 1 consists of simple buds arranged in squares; No. 2, semicircles and trefoil buds, from stained glass; No. 3, Gothic, trefoil leaves in squares; No. 4, square flowers, as found in the Egyptian, and an ivory carving of the tenth century; No. 5, Chinese; No. 6, Byzantine; No. 9, Egyptian; No. 10, Indian; No. 11, Late Gothic; and No. 19, Norman, all of which have to a great extent a similarity to each other, being a succession of leaves or buds in a growing position. Nos. 7, 8, Indian carving, the lines of which are again common in Gothic; No. 12, Indian inlay; No. 13, Early stained glass; No. 14, Early Gothic, engraved metal work; Nos. 15, 16, Egyptian; No. 17, Japanese, alternate leaves arranged on right angles; No. 18, Norman, rectangular border carved on priest's robe; No. 20, Assyrian border, squares alternated with circular rosettes; No. 21, Italian, semicircular flowers on the "egg-and-tongue" type; as are also Nos. 22, 24, Etruscan, and No. 23, Mediæval Italian.

Woodcuts, Figs. 37, 38, 39, are from Etruscan vases. Figs. 40 to 54 are various



* *The Times*, April 20, 1865, on *Researches into the Early History of Mankind and the Development of Civilization*, by E. B. Tylor.

small Byzantine and Gothic examples from various sources for inlay or simple flat carving.

The ornamentation in borders is frequently made continuous in the direction of their length, and branch from a central stem, as in the examples given on Plate 5, Nos. 1, 3, and 4, which are Etruscan; and No. 8, Gothic; from an interrupted central stem, as No. 7; from a flowing stem, No. 9; twisted, No. 5; branching from the bottom, as Nos. 6, 11, Gothic, and No. 10, Byzantine; branching from the top, as No. 13, Gothic, and which, when doubled, gives the continuous heart-form, No. 2. This was further developed into continuous and branching heart-forms, as shewn by woodcuts, Figs. 55, 56.

Fig. 55.

Fig. 56.

The heart-form repeated side by side was also a favorite Mediæval enrichment, as given on Plate 5, No. 16, and which was probably originally founded upon the Anthemion ornament of the Greeks. Other modifications of the heart-form are given, — No. 18, Norman; Nos. 14 and 15, from early ivory carvings; Nos. 12 and 17, Byzantine; and No. 19, the double or reversed heart-form.

The wave or flowing line, has been used for continuous ornamentation, in nearly every style of architecture since the Egyptian. It may perhaps be considered as a softened form of the zig-zag. The double or interlacing wave line, seems to have been suggested by the guilloche, which, in its most simple form, may be looked at either as the interlacing of two semicircular wave lines, or the interlacing of circles, as in the common Italian example, No. 1, Plate 6. Its type in nature, is the twisted stem of a climbing plant — as the convolvulus. If the lines of the guilloche are separated, we see the wave line formed of alternate semicircles, as No. 13. The Classic guilloche finds its parallel in Mediæval work by the foliated guilloche, No. 5. The Italian form of interrupted guilloche, No. 2, appears again in the Gothic, in a modified form, as No. 7. By elongating the curves of the guilloche, as in the Roman example, No. 3, from the British Museum, its connection with the double wave line is more clearly seen. The stem, with the leaves and berries, is shown distinctly as one flowing line, interlaced by a ribbon line. A somewhat similar arrangement is shown by the Norman example, No. 4, from a string-course at Barfreston Church, Kent, where flowers growing from the lower portion of the curves, very gracefully fill up the spaces left by the interlacing lines. No. 6 is a Gothic arrangement of similar interlacing stems, with foliage growing therefrom; No. 8, another Gothic form of interlacing stems or guilloche — they form also a portion of the lines in net tracery. No. 9 is a very charming Indian variation upon the double wave line.

The single flowing line had various beautiful developments. The three following examples are from some of the most simple: — No. 10, Norman, from St. Mary's Church, Guildford, Surrey; No. 11, Gothic, and No. 12, Roman, from Mosaic pavement in the British Museum. The last appears to be formed with the flowers of the Campanula, or Bell-flower. No. 13 is a Mediæval form of the scrolled wave line. This form of the flowing line, or perhaps, more correctly, the continuous or branching scroll, was most elaborately and skilfully developed in Roman and Italian architecture in many of their large and richly carved friezes. In Gothic, also, it was often most elegantly arranged, and was always a favourite line: — No. 14, a long, flowing wave line, with double scroll, from Early Gothic wall decoration from Great Wenham Church, Suffolk; No. 15, from the enamelled shield of William de Valence, in Westminster Abbey; No. 16, from Norman carving. No. 17 is a Moresque form of continuous scrollwork, from an ivory carving in the South Kensington Museum; and No. 18, Greek, from an Etruscan vase.

The fret or meander, like the zig-zag and wave line, has been of most universal application in nearly all ages. Its origin appears to have been the alternate interruption of the top and bottom lines of a member, divided by equally spaced vertical lines, giving a simple crenellated line, as in Fig. 36 and No. 1, Plate 7. By passing a centre bar through this, as in No. 1, it is easy to see how the key-form was suggested, and how it would soon develope itself into the simple Greek fret, as shewn at No. 9. Mr. Ruskin, in his *Seven Lamps of Architecture*, strongly condemns the Greek fret, and pronounces it ugly because it is unlike anything in nature. But as the fret is merely an agreeable arrangement of straight lines, does not pretend to be an imitation of anything in nature, and is a form which has been so largely adopted by mankind, it must not be too hastily condemned. It is somewhat singular, that since the time of the publication of Mr. Ruskin's book, the fret has been brought very largely into use by our manufacturers of porcelain, glass, and woven fabrics, and just now it is very fashionable, worked in braid, upon the bottom of ladies' dresses. It cannot be denied, that there is a charm about the simple form of the fret, which must be acknowledged — the eye appears to be satisfied with its quiet intricacy, upon which it often reposes and follows its meanderings without fatigue.

Imperfect frets are to be found on the mummy cases of the Egyptians, but the Greeks appear to have brought it into a more perfect and regular geometrical form, of which No. 9 is the most simple type — from this it branched, in other styles, into an enormous number of ramifications. The Greek fret appears to me to be nothing more than an angular form of the Vitruvian scroll. This may be seen more clearly if the diagonal form of the fret, as at No. 11, be compared with the Vitruvian scroll, shown at No. 6. No. 2, the Etruscan oblique form, shows again the similarity, and the eye in following the lines acknowledges this flowing, or wave form, notwithstanding the angles. No. 3 may be looked upon as a mere angular rendering of the double wave line, while No. 4, from a Mediæval ivory, closely allies itself to the guilloche. Nos. 5 and 8, Etruscan,

would appear to be from a twist or rope; or No. 8 may be a square form of guilloche. No. 10 is a common variation upon the Greek, and is found in the Norman, as upon the west front of Rochester Cathedral. Nos. 7, 12, 13, 14, and 15 are Greek, Roman, and Italian variations, No. 16 is an oblique form with foliage. In Chinese architecture we get into a complete world of fretwork, but it is more remarkable for its intricacy and ingenuity than for its elegance. The Moors introduced a greater variety in the fret by adopting crossing diagonal lines; No. 17 is one of their most simple forms of interlacing frets.

The Greek frieze, called the "Anthemion ornament," has given its name to a number of upright enrichments, connected or growing from scrolls or semicircles. This species of ornament, however, is much earlier than the Greek, the type of which may be found in the Egyptian, but more fully developed in the Assyrian. A great similarity of form is to be observed in the Assyrian ornament Fig. 58, and the palm trees as sculptured on their bas-reliefs — so much so, that it would appear probable that the palm tree was the true origin of the Greek honeysuckle. There can be no doubt, that, the Greek ornament owed part of its form to the honeysuckle, more particularly the reversed curve, or *ogee* form of the lobes. The flower which alternates with the Honeysuckle, in the Athenian examples, appears to be from the Lotus ornament of the Egyptians, one of which is given at No. 9, Plate 4. This was imitated by the Assyrians, as shewn at No. 28, Plate 7, where we see, alternately, the expanded Lotus and bud connected by the scollop or semicircle. In the Etruscan examples, Nos. 23, 24, we have a similar arrangement of buds and flowers upon interlaced semicircles. In the Assyrian, we see another development of the Greek Honeysuckle form, as shewn by woodcut, Fig. 57, which represents a fully expanded flower, alternating with a circular bud or pomegranate, springing from semicircles, taken from an Assyrian ivory in the British Museum. This figure also, gives an early instance of the use of the guilloche. We find, again, the Anthemion forming borders upon dresses in the Assyrian, and flowers forming portions of their sacred trees much like the Greek Honeysuckles. Woodcut, Fig. 58, gives the form of many of these flowers, taken from the Assyrian pavement in the British Museum. It is remarkable as being very similar to the Honeysuckle enrichment upon the cornice of the Monument of Lysicrates at Athens, the rough form of which is given as an incised ornament at No. 18, Plate 7; a repeated or alternately reversed form of which has suggested the ornament No. 19. No. 20, a Byzantine form, looks as if suggested by the Egyptian

Fig. 57.

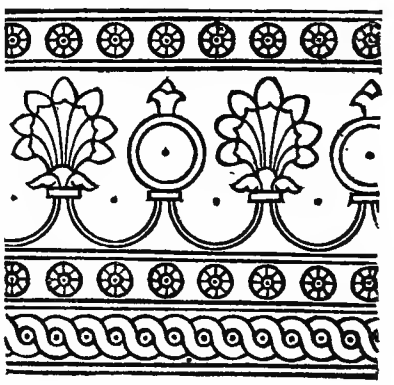
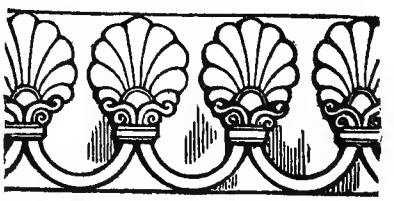


Fig. 58.



Lotus and circular flower. This, again blends into the Heart forms, as at No. 21 and others, on Plate 5. The Indian border, No. 20, Plate 3, has also very much the Egyptian and Assyrian arrangement of alternate flower and bud.

In one of the most elaborate of the friezes from the Erechtheum, its beauty is marred by the addition of a crooked erect scroll, rising between the Honeysuckle and the Lotus, and branching from the lower scrolls. In the example given at No. 27, Plate 7, which is from an antique Greek painted terra cotta in the British Museum, this crooked scroll is omitted, and the Lotus is arranged between the Honeysuckles, growing from the lower scrolls, in a manner which is much more graceful and perfect. Somewhat similar enrichments are painted upon the cymatium of the raking cornice of the Parthenon, and will be found illustrated in Vulliamy's ornaments. Many variations upon the Anthemion ornament may be seen upon Etruscan vases, of which No. 22 gives a very elegant example. Although somewhat stiffly, the Romans appear to have followed this latter example very closely, as shewn by the woodcut Fig. 59, which is from a Roman antique in the British Museum. The Gothic artists designed some of their enrichments upon the same principle as the Greek, as shewn by No. 25, a border from the tiles found at Chertsey Abbey. The Tudor cresting, of which No. 26 gives the outline, as found in flint work, is also upon the same principle.

FIG. 59.

CHAPTER IV.

CENTRES.

THE beauty of radiating flowers appears to have caught the attention of artists at a very early period. They are formed in the Egyptian, as seen upon mummy cases, in the most simple manner. A complete circle is drawn with an eye, and divided into four or eight radiating divisions. An example is given in woodcut, Fig. 64, from an Egyptian tile, with the extremities of the petals rounded. In the Assyrian the number of petals are increased to ten, twelve, or fourteen, see No. 20, Plate 4. In the Greek circular flowers, which have been called Pateræ, from their supposed resemblance to a flat dish or saucer, the outer form of the petal is made flatly elliptical, edged by narrow margins, and the flowers are made double, as in the examples from the large doorway of the Erechtheum. In the Assyrian and Greek, the imitation appears to be that of a composite flower, such as the common Daisy, Chrysanthemum, or Sunflower, the number of petals being often varied according to the size of the flower. The Greeks also shewed their appreciation of radiating or rayed forms, by the star-like figures with which they painted the soffits of their lacunaria.

The imitation, however, of the beautiful and simple radiating flowers appears not to have occurred until after the time of the Greeks. To the Mediæval artists is due a closer observation of nature, and the engrafting upon their architecture the charming outlines suggested by the most simple flowers. The piercings of early tracery in trefoils,

Fig. 60.

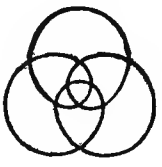


Fig. 61.

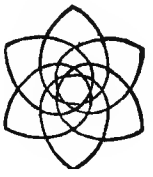


Fig. 62.

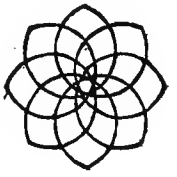
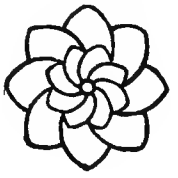


Fig. 63.



quatrefoils, and cinquefoils were taken from the forms of flowers; and from the amalgamation and interlacing of these forms arose, that system of tracery which was so strikingly perfected during the fourteenth century. The beauty of radiated flowers, however, goes further than their outline, and often the conventional treatment of a simple and modest flower, forms one of the most charming centres for ornamentation

which can be imagined. An important point is not to lose sight of the simplicity of nature, in the alternation of leaves and petals, which is a natural law.

Woodcut, Fig. 60, gives the lines for a triangular flower, embracing the natural alternation of three series of petals arranged geometrically; Fig. 61, the alternation of a six-pointed flower, of five series of petals; Fig. 62, the same of an eight-pointed flower. Fig. 63 shews the alternation of two series of screwed petals, after the manner of the Hollyhock. No 1, Plate 8 gives a six-pointed star flower, set within interlacing convex triangles. No. 2 is a flower for inlay, formed with interlacing concave triangles. No. 3 is a Japanese flower, of twelve petals. No. 4 is also Japanese, and of a charmingly simple form, probably taken from the triple leaves of the Oxalis. No. 5 is a Mediæval form of triple flower. No. 6 is again from the Japanese, and is remarkable as being extremely like what is found in Gothic, as in the enamelled diaper from the cushion supporting the head of the figure, from the tomb of William de Valence in Westminster Abbey.* No. 7, eight-pointed flower with segmental-pointed petals. No. 8, flower of four interlaced vesicas; Nos. 9 and 10, Roman, from Mosaic pavements; No. 11, Greek, interlaced heart-form; No. 12, eight-petalled flower, from the Coreopsis, shewing the mode of setting out by arcs of circles; Nos. 13 and 14, Etruscan; No. 15, Gothic, five-petalled flower; No. 16, Japanese, probably from a bell-flower; No. 17, lines for five-petalled flower, with calyx and intermediate triple points; No. 18, cluster of six five-petalled flowers, with intermediate buds.

The woodcut, Fig. 64, shews the simple eight-petalled flower from an Eyptian tile. Fig. 65 is the same form as sometimes found in Gothic, as a monopetallous flower: Fig.

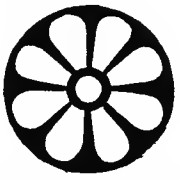
Fig. 64. 

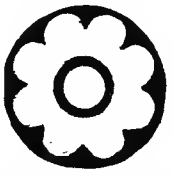
Fig. 65. 

Fig. 66. 

Fig. 67. 

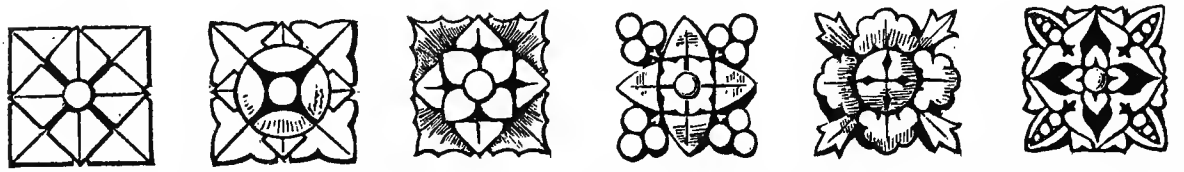
66, a Gothic four-petalled flower formed of arcs of circles; Fig. 67, the arcs of circles extended with intermediate petals.

Centres arranged in a square form, are often necessitated by the surrounding lines of a composition. Fig. 68 may be called the type or primitive outline of the double square rose, so frequently found in the tracery panelling of the fifteenth and sixteenth centuries: — Fig. 69 is a variation upon the same lines, having a ball flower in the centre, which admits again of being variously treated. Fig. 70 has an addition to the original lines, of four other leaves placed diagonally with the second. The outer leaves are deeply hollowed, and the edges scolloped, after the manner of the Holly. Fig. 71 adopts the lines of the double vesica, a very beautiful and primitive form, having been commonly

* See *Gothic Ornaments*, Vol. I., Plate 5.

used as an interlacing figure, at least as early as the tenth century. Fig. 72 embraces the form of the quatrefoil, with leaves of the Ground Ivy; and Fig. 73 returns to the

Fig. 68. Fig. 69. Fig. 70. Fig. 71. Fig. 72. Fig. 73.



original lines. It has four flowers of the Cuckoo-pint, or *Arum maculatum* character, placed diagonally.

A very early and beautiful example of a square arrangement, is that from the Assyrian pavement in the British Museum, a portion of which is given at No. 6, Plate 9. The centre is occupied by a rose or patera, from which radiate to the angles four fir cones, and alternating with them, spreading to the sides of the square, are four Lilies. These square centres are repeated, forming a diaper over the whole surface, separated by borders filled with pateræ. The whole is surrounded by a general border, in which occurs the enrichment, No. 28, Plate 7, and the Honeysuckle ornament, Fig. 58. The whole of the work is in very slight relief. No. 2, Plate 9, is a Japanese example of a square arrangement of foliage. It adheres neither to radiation nor to any geometrical arrangement, but boldly takes a branch and adapts it to the square form, letting the leaves branch out as they may. It is from a tray, in gold upon a chocolate ground, without any enclosing lines, and where any other form would have done as well. It is brought to a square evidently by the mere whim of the artist; but this is done in a masterly manner. Other branches are often found in circles upon the same principle.

Nos. 1 and 3, are Norman, from Canterbury; No 4, Early English Tile, from Salisbury; No. 5, foliated quatrefoil form for tile or inlay — the woodcut, Fig. 74, gives another variation of the foliated quatrefoil for inlay; No. 7, Plate 9, Early incised ornament or inlay with jewel centre; No. 8, flower for painting, on double square or eight-pointed star; Nos. 9 and 10, Norman; No. 11, heart-form, arranged in square from a Mediæval enamel; No. 12, Indian, four-petalled flower upon a spiral branch; No. 13, Mediæval.

Fig. 74.

Repetition is a very important means of producing ornamental form. A small enrichment, such as a square flower, which may be again a repetition of four simple petals, if repeated in square compartments over the whole of a wall surface forms a diaper at once simple and elegant. A well-known example of this is the stone diaper work in the triforium of Westminster Abbey. In the formation of a border or moulding, a single

leaf or flower may be repeated for any length. We see an instance of this in the Early English dog-tooth moulding. As long as the unit to be repeated is good, repetition has a pleasing effect. This element of the beautiful is seen again in the repetition of long lines of columns, of piers and arches, and in vaulting. Nor is this contrary to nature, which is full of repetition, and some of its beauties are as much depending upon constant repetition, as are those in art. Every plant repeats itself, as well as every branch, every flower, and every leaf. Every petal and every stamen, in a radiating flower, repeats itself around its centre. But nature never repeats herself strictly — no two plants, flowers, or leaves are precisely alike, although to a common observer no difference would be perceptible. A remarkable instance of this may be seen in the leaves of the common Hawthorn. The variety is something enormous, and yet all are so similar that a Hawthorn leaf can never be mistaken. There are thousands of other instances.

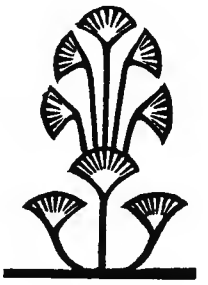
This subtle difference can, however, be taken but little notice of in art repetition, but the similarity is sufficiently close in nature, to shew that repetition is a natural law, as a means of producing the beautiful, and therefore an element of beauty in art. Those who would endeavor to ignore this fact, would soon find that they could not proceed far without it. This can be readily shewn by the composition of a diaper, and I can refer to some of my own plates to illustrate the point — in Plates 12 and 18, where, in my wish to make the designs useful, by introducing as great a variety as possible, it will be found that the general effect and quietness of the diapers, are marred by too great a variety and want of sufficient repetition. There should not be at the most, more than two changes, in the forms used in the diapers. This is a power, however, which should be remembered, as there are instances where it is as necessary to introduce a discord among ornamentation, as much as in music. We see this in the variety gained by the use of the grotesque, among that which is more pure and elegant — it enhances the power of the beautiful, and prevents it becoming tame and insipid. In this light must be held all the grotesque monsters, which have been so profusely introduced in Mediæval buildings, and which all answer a distinct artistic purpose, although the ordinary observer may not be aware of it.

But to return to the subject of repetition. We have seen it in diapers extended to the whole surface; in borders and mouldings extended in one direction only; and in centres radiating from a central point, or arranged in symmetrical curves or lines, round that point. But there is another kind of repetition — the repetition on each side of a centre line, such as we observe in the arrangement of a leaf on each side of the mid-rib. We see this repetition again, in a higher degree, in the disposition of the parts of the human form. It is, however, better known as symmetrical arrangement. Centres for ornamentation may also be of this nature, and for distinction I have designated such centres as "sprigs," that is, a portion or small slip of a symmetrically arranged plant or flower. They are often the representation of a flower in profile. Of this manner the Egyptian presents numerous examples in the treatment of the Lotus, as No. 5, Plate 10.

Here we have in the centre, a very beautiful arrangement of three lilies in profile, with two buds and two (apparently) seeds, treated symmetrically and tied together in one bundle. On each side is the Lotus again in profile, but only partly expanded, with two buds accompanying each. The whole is treated in a triple manner, which was a favourite arrangement with the Egyptians. First, the whole composition is in three; the principal flowers are three, accompanied by buds and seeds; the side lilies are in threes; and lastly, each flower is divided into three again. In the woodcut, Fig. 75, we have another arrangement of the Lotus in three, probably shewing the calices of the flowers after the petals have fallen off, the three stalks growing from one sheath or centre. The symmetrical arrangement of a centre and sides answering to each other, runs through the whole of the Greek Anthemion ornaments. On an Assyrian bronze bowl in the British Museum is found a small engraved ornament (Fig. 76). It consists of a triple arrangement of what is probably intended for the Lotus growing out of the water, and from the centre flower spring five other flowers, much after the same manner as the branches of the Greek Lotus, in the Anthemion ornament, spring out of the centre husk.

Fig. 75.

Fig. 76.



No. 1, Plate 10, is a Byzantine form of the Fleur-de-lis, the upper lobes of which meet over the centre of the flower, as in nature. The conventional Fleur-de-lis appears to have originated more from various earlier forms than from the natural flower. Fig. 77, a Norman example, from painting on groining in St. Mary's Church, Guildford,

Fig. 77.

Fig. 78.

Fig. 79.

gives another Early form upon the same type, approaching more closely to the later conventional form. Fig. 78, from a Byzantine enamel, more symmetrical than the last, is another version of the same. Fig. 79, from painted decoration in Prior Crauden's Chapel, Ely Cathedral, white flower on light red ground, gives the conventional form of the Fleur-de-lis of the fourteenth century, and which was the type of all those sprigs which grow from a centre bar or band, as in Nos. 3 and 9, Plate 10. No. 2 is an Indian

sprig or flower, growing from a pot or vase, taken from an Indian shawl. No. 3, gold stencilled sprig with pink flowers, on a green ground, traced from a diaper on the painted rood screen in Ranworth Church, Norfolk; date about the latter part of the fifteenth century. No. 9, gold stencilled sprig, of about the same date, traced from the diapered panels of Bishop Beckington's shrine, Wells Cathedral. The starting point in sprigs and branches of flowers appears to have been a difficulty in many styles, and different expedients have been adopted to overcome it, in most instances it is best to shew the foliage springing out of, or from the object decorated, without any attempt at concealment. In the Gothic the sprigs were often crossed by a horizontal bar or tie, as in the two last examples, and the conventional Fleur-de-lis, Fig. 79. This bar gives a centre from which the parts spring, in the same manner that the centre of a flower gives a point from which the petals radiate. In some Mediæval examples, the roots of the plant or tree are shown, but this cannot be commended unless for heraldic purposes. In the Egyptian, flowers usually spring from a horizontal line, which probably was intended to represent water. In the Assyrian example, Fig. 76, the ornament rises from a horizontal line, as if it represented the lilies growing from the water. In the Italian and Renaissance, the favourite mode was to make the branch or flower growing out of a vase. The foliage round the Ghiberti doors spring from vases. Occasionally the starting point was concealed by a raffled leaf.

No. 6, Plate 10, is an example of a painted sprig of Perpendicular date, traced from the pulpit of South Burlingham Church, Norfolk. The foliage is dark green, with red flower on white ground. The sprig alternating with this is chocolate, with blue flower. This example departs a little from the strictly symmetrical, by the way in which it springs from the horizontal branch at the bottom. This is a very cleverly managed starting point. No. 4 is a sprig from an Etruscan vase, symmetrical only in the lobes of the flower. As this and the last example are both painted by hand, they serve to show the difference in the handling of the brush, between the Gothic and the Greek artist. No. 7, symmetrical sprig from an encaustic tile from Winchester Cathedral. No. 8, Indian sprig with symmetrical radiating flowers. Woodcut, Fig. 80 is also an Indian sprig within an enclosed form. The upper portion has a flower in profile with the remainder of the space filled with leaves issuing from the centre stalk. This manner of filling in with parallel leaves, is often seen in early illuminated letters, and the larger lobes of leaves are sometimes filled in this way, as in the example No. 1, Plate 10.

FIG. 80.

In analyzing geometric form, I have now gone through and have given a great variety of diapers, borders, and centres, and nearly every kind of enrichment or ornamentation, (with the exception of such distinct features as spandrils, panels, capitals, finials, &c.,) which can be referred to either the diaper, the border, or the centre. It may, perhaps, be even said that they are all contained in the diaper; for a border is

often only a portion of diaper, and the centres are frequently to be found within the geometrical divisions of the diaper; but on the other hand they are perfectly distinct and have their distinct uses, although occasionally mingling together and forming portions of each other. Nature diapers her surfaces, as in the imbrication of stems of various kinds of plants and trees, in coats of animals, feathers of birds, scales of fishes, and on the surface of shells. The sky is diapered with stars, and the fields with flowers —

> "Under foot the violet,
> Crocus, and Hyacinth with rich inlay
> Broidered the ground, more coloured than with stone
> Of costliest emblem." — MILTON.

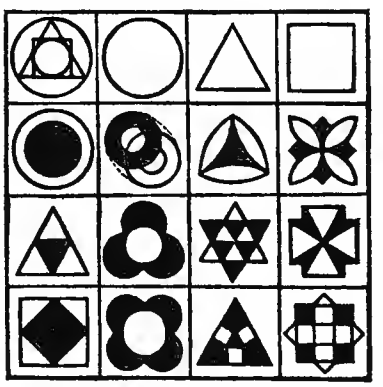
Borders are seen in the variously cut or ornamented edges of leaves; in the margins of flowers and shells — as in the scolloped edge of the crab-shell for instance, in the fringe round the eye, and in the borders of streams —

> "By slow Meander's margent green,
> In the violet embroidered vale." — MILTON.

For centres, we have but to look into the heavens, at the sun, the moon, and the stars; or upon the earth at their counterpart in the lowliest flower!

The following diagram, Fig. 81, exhibits the principal combinations in a tabular form, of the circle, triangle, and square, the three primitive figures which are most used in ornamental combinations. With the exception of a very limited use of the pentagon, they embrace all the figures which enter into the composition of ornamental form. The eye cannot be too well practised in the sources from which form has been multiplied, and, by adding one form upon another, to find the result as certain as the result in a multiplication table. This has suggested the tabular form here given; but there is this difference — although the result is as definite as in an arithmetical table, yet there are a vast number of other variations again to be worked out upon these results. In this respect it has an affinity to the tabular form of the three primitive colours; for, although blue and yellow always make green, yet it will also make a great number of various shades of green, and also there are greens in which all three of the primitives are used. So it is with form, — there are a number of other shades of form, and others which embrace the use of all three of the primitives. But if the eye is well practised in the fundamental forms contained in the table, it will work out other shades mentally without putting them on paper. In this mental education of the eye is the use of this table — to cultivate an eye for form as an artist educates his eye for colour.

FIG. 81.



Mr. Hay, in his *Analogy of Sound, Colour, and Form*, has some useful and extremely

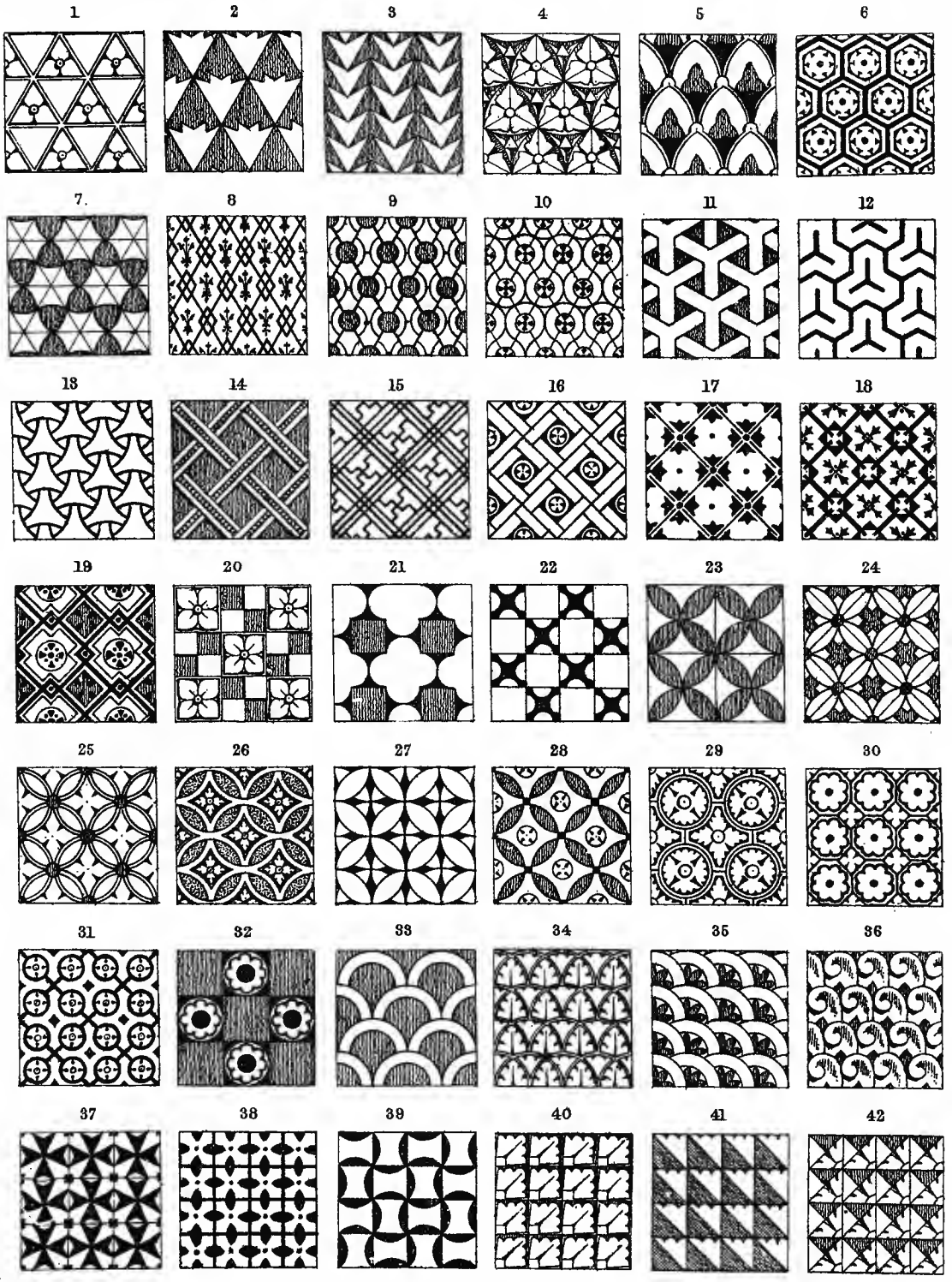
interesting combinations upon the three primitive forms, but he attempts more particularly to show their connection with sound. The figure in the upper left-hand division of the table is taken from Mr. Hay's work, and is a simple combination of the three primitive figures — the circle, triangle, and square. In a line with this both horizontally and vertically follow the same figures separately, — those in the vertical column, having in addition, an inner circle to indicate the property of the circle in forming concentric rings; the second triangle, to point out its property of dividing the larger one into four, each equal to one-fourth the whole superficies; and the diagonal square in the square, its forming one half the superficies of the original square. The other figures are read thus: —

Circle × circle = guilloche, intersecting rings, and ellipse.
Circle × triangle = trefoil.
Circle × square = quatrefoil.
Triangle × circle = convex and concave triangles.
Triangle × triangle = hexagonal star and diamond.
Triangle × square = triple arrangement of squares; squares on triangle.
Square × circle = four-petalled flower.
Square × triangle = Maltese cross; triangles on square.
Square × square = octagonal star and Greek cross.

It will be observed that the multiplier is always more apparent in the product than the multiplicand, in the same manner as if the vertical columns were transparent washes of color over the horizontal lines, making the difference between circle × triangle and triangle × circle as much as between bluish yellow and yellowish blue.

All the elementary geometrical forms are found more or less perfect in nature. The circle is not only seen in the forms of the sun and the moon, but in the iris of the eye, in birds and fishes' eyes, and in the end view of an egg, as well as in the Daisy and Sunflower. Concentric rings are to be found in the Onion and in the cross section of trees. The triangle occurs very perfect in the stem of the common Sedge. The square is seen in the sections of the stems of the Archangel or Dead Nettle, and the cube is found in the crystals of minerals, as in fluorspar, mundic and galena, or sulphuret of lead — the eight-pointed star and square stem also occurs in common Cleavers. The pentagon and pentagonal star is developed in the flowers of the Convolvulus, Bind-weed and Woody Nightshade — it is seen again in the star-fish and in some minerals. The compound form of the hexagon is found in the crystallized prisms of beryl — in the well-known honeycomb, as well as in the nests of wasps and hornets, where the hexagonal cells are put together with the most mathematical exactness. These few instances, taken almost at random, serve to shew how geometrical form, as a constantly recurring principle, runs through nature.

END OF PART I.



ANALYSIS OF FORM.—DIAPERS.

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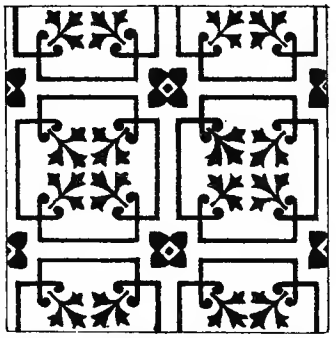
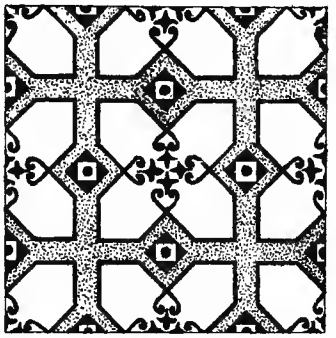
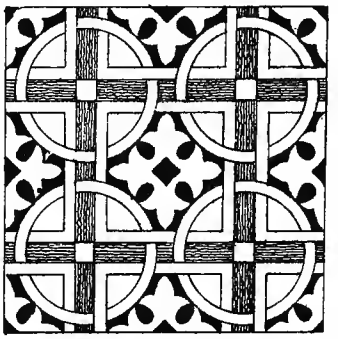

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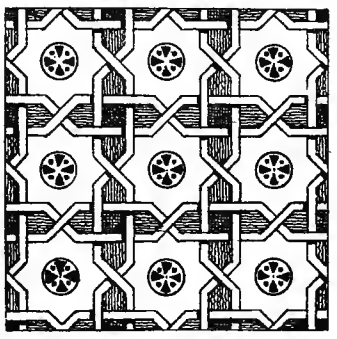
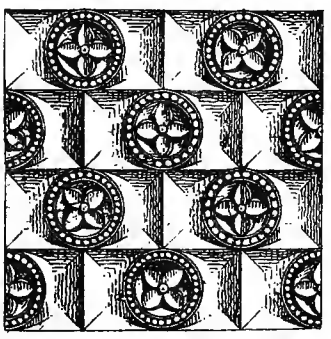
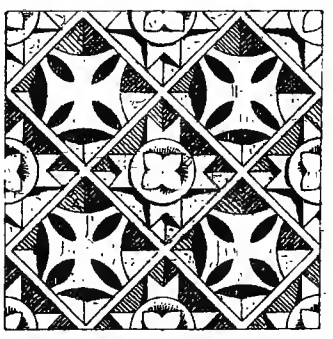

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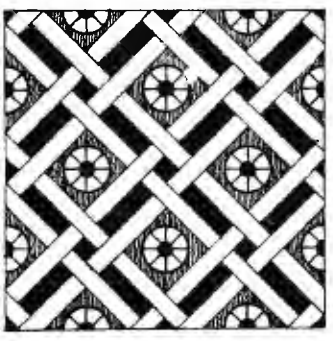
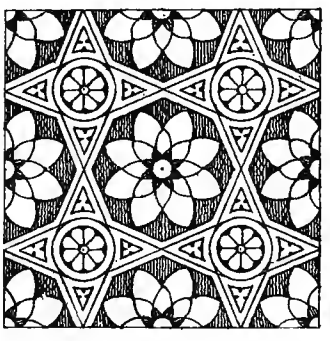
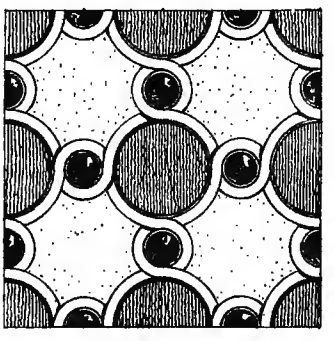

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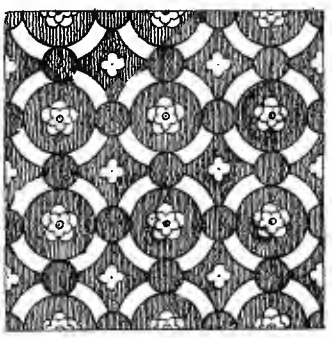
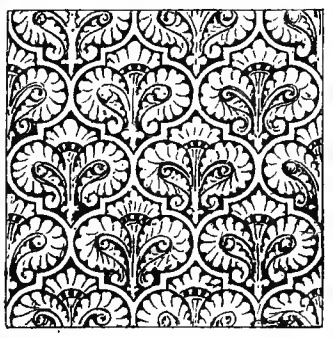
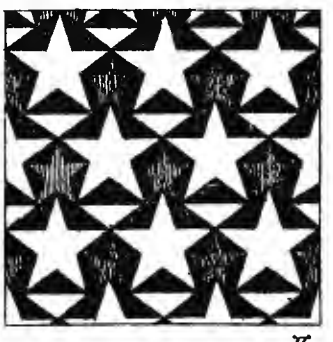
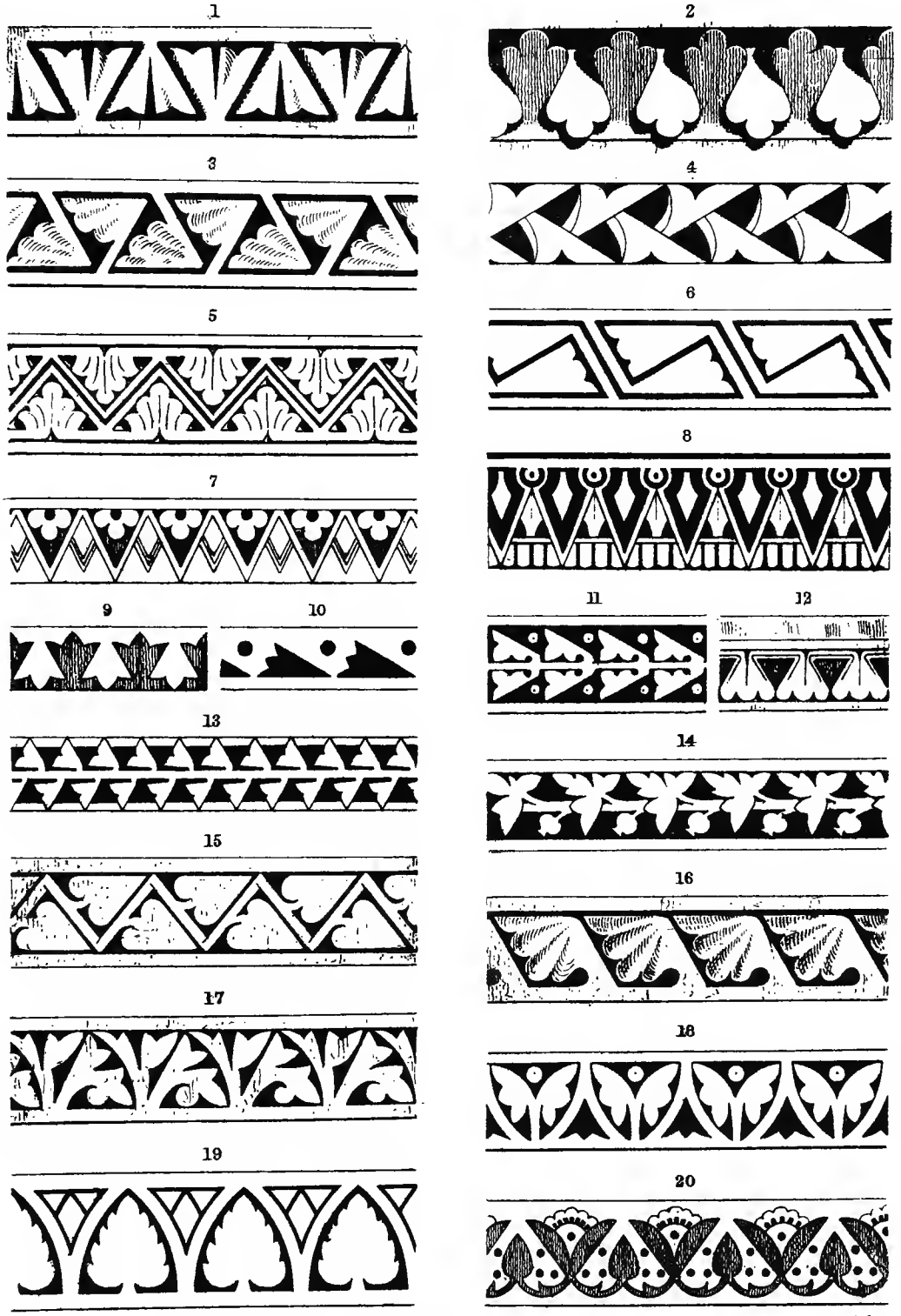
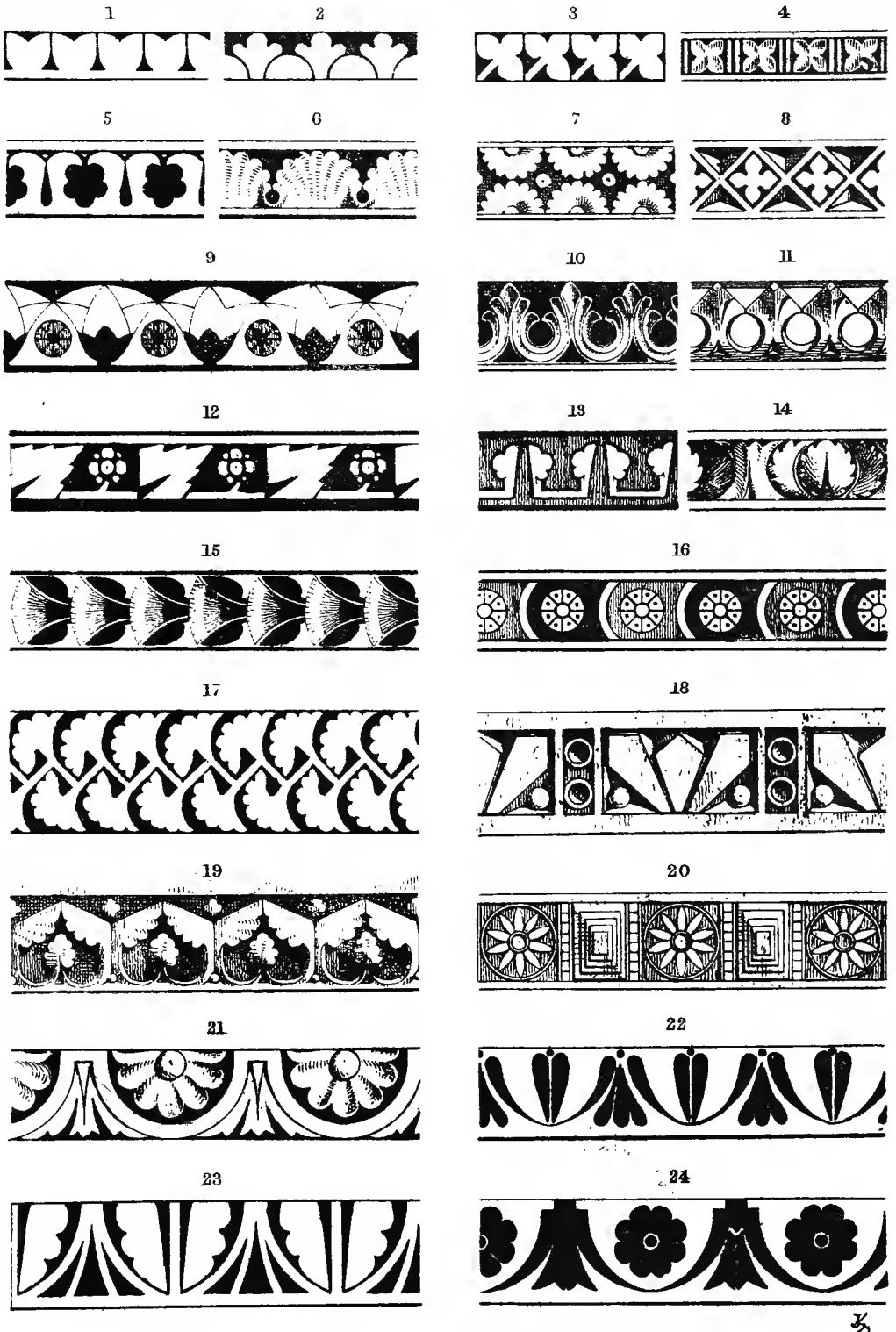




ANALYSIS OF FORM — DIAPERS.



ANALYSIS OF FORM.—BORDERS, TRIANGULAR.



ANALYSIS OF FORM.—BORDERS, RECTANGULAR.

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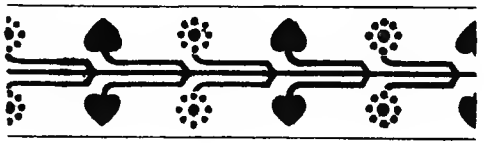

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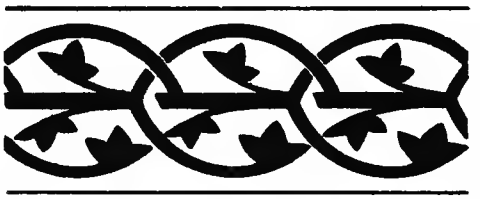

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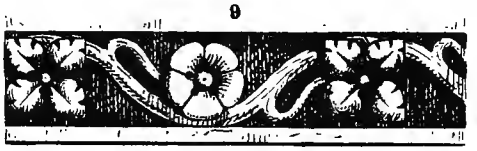

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ANALYSIS OF FORM BORDERS, BRANCHING AND HEART FORM.

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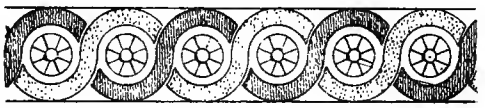

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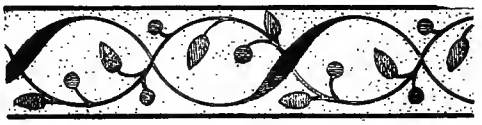

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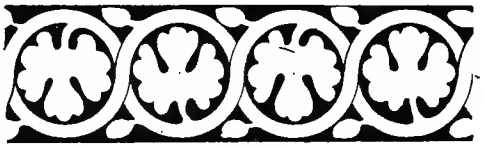

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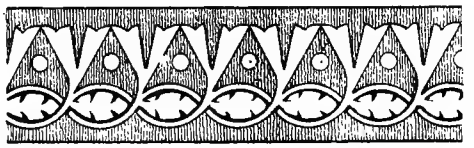

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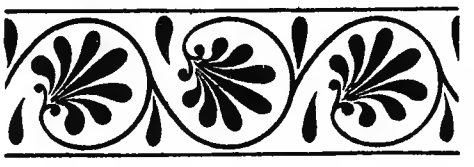
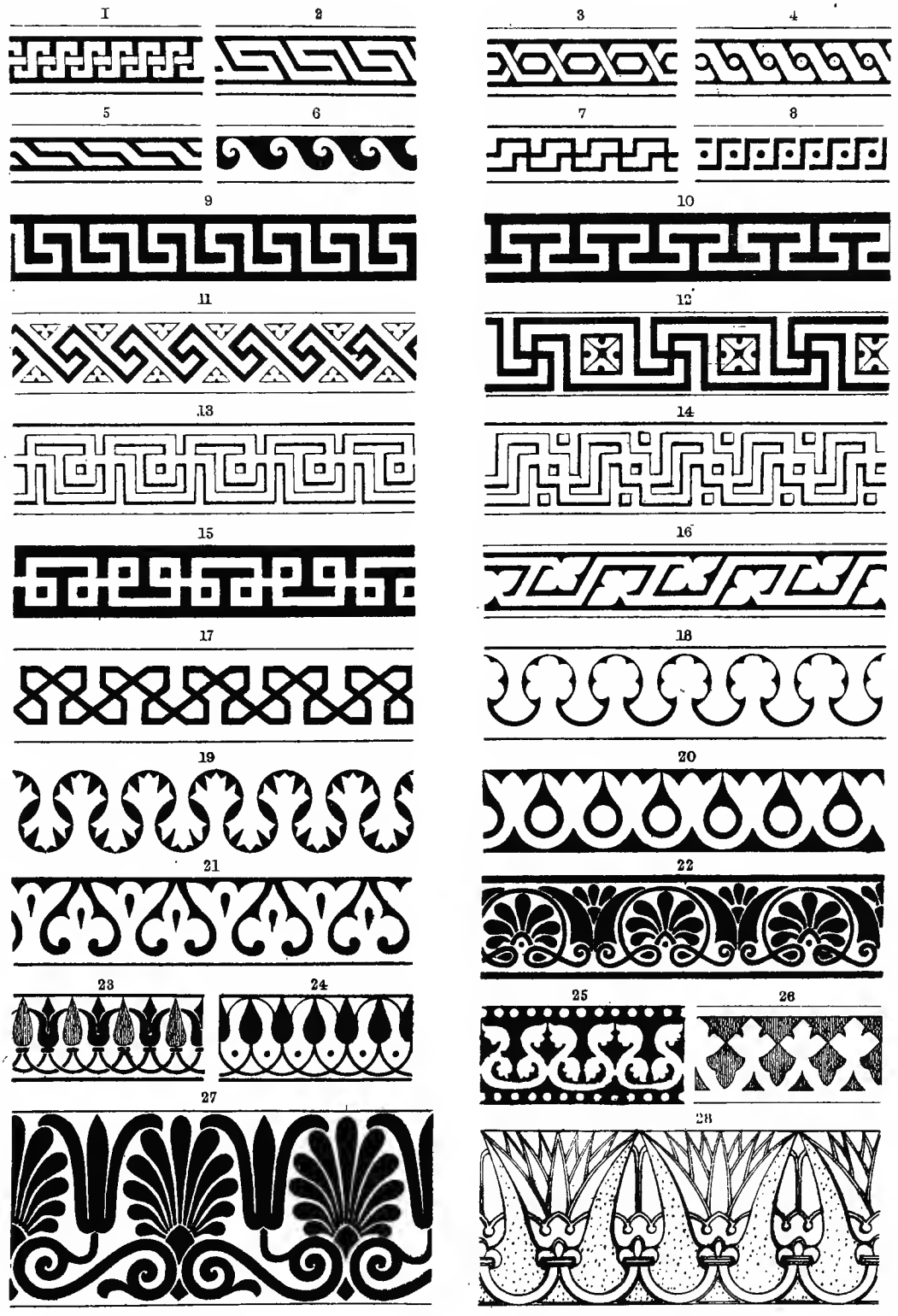
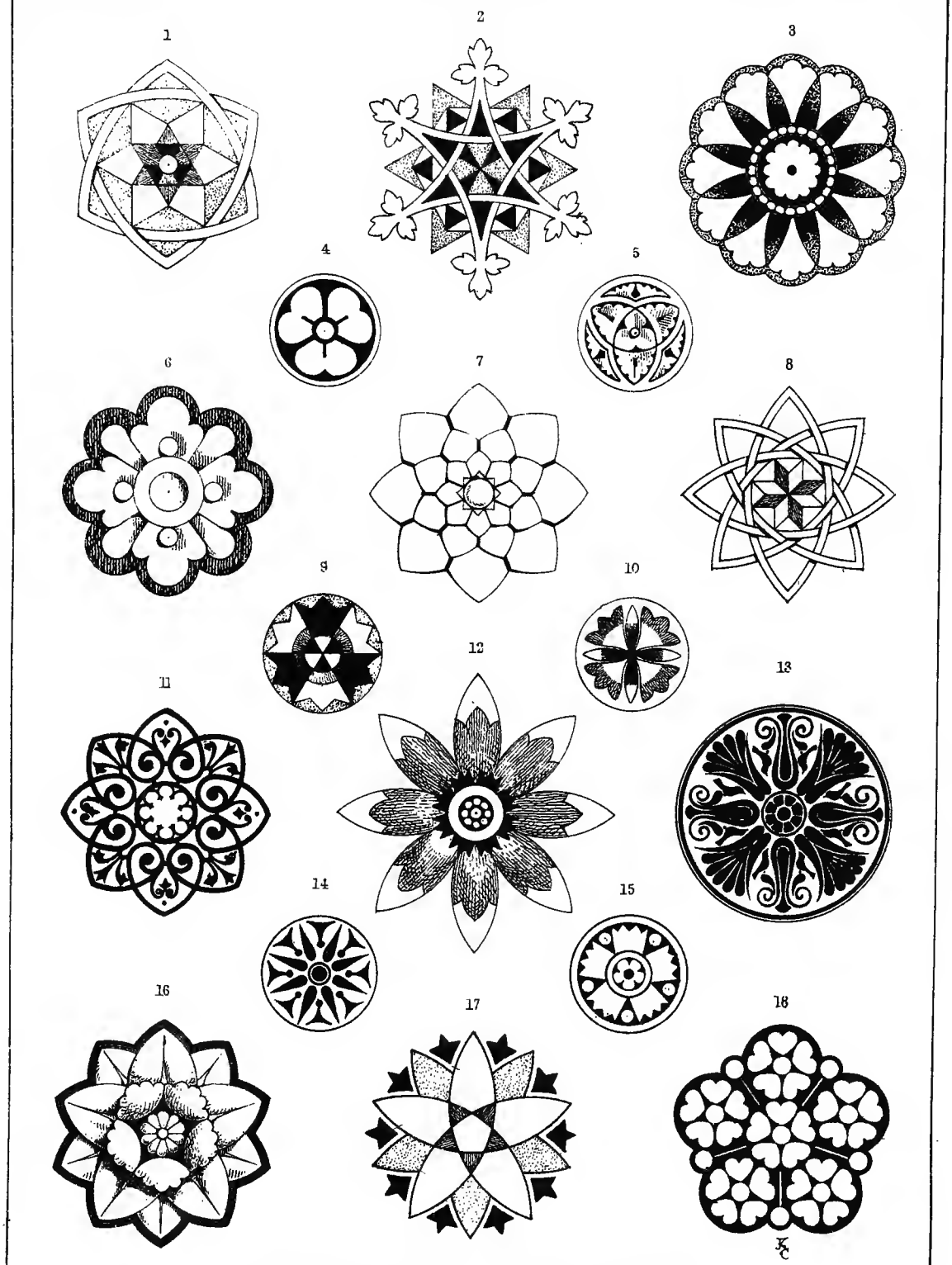


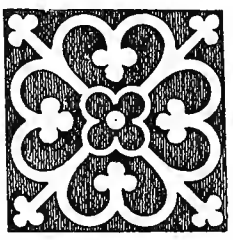
ANALYSIS OF FORM. BORDERS — GUILLOCHE AND WAVE LINE.

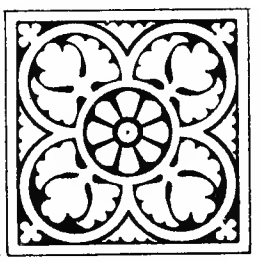


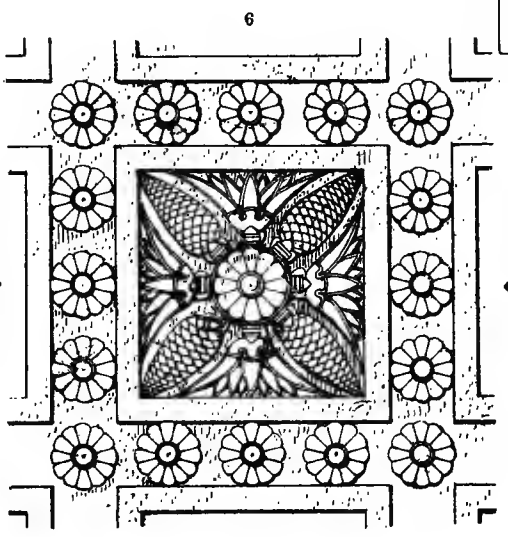
ANALYSIS OF FORM. BORDERS — FRET AND ANTHEMION.

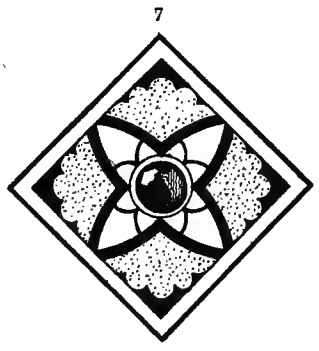


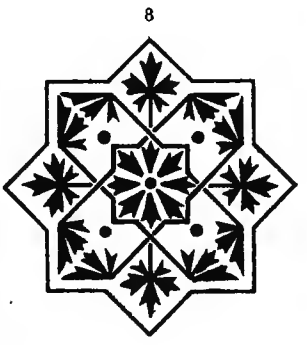
ANALYSIS OF FORM. CENTRES — CIRCULAR.

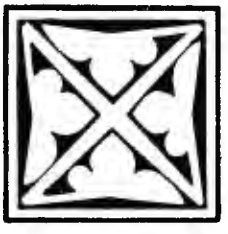


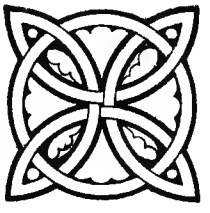




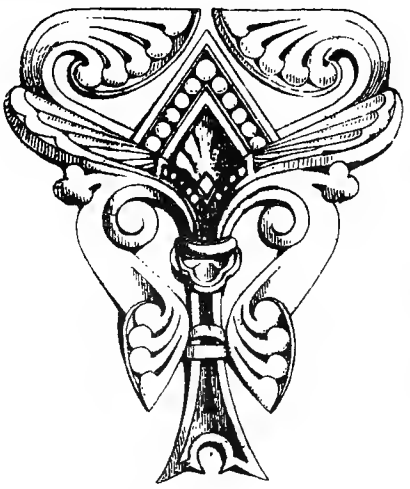


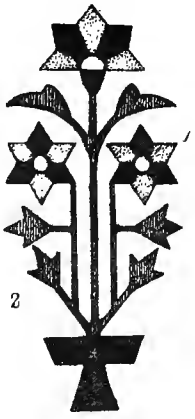






ANALYSIS OF FORM. CENTRES SQUARE.





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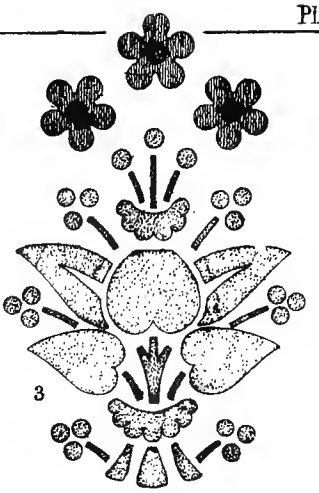

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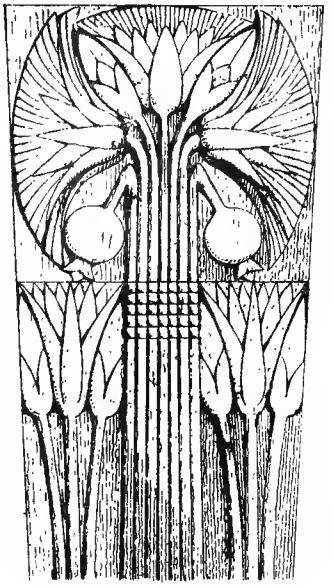

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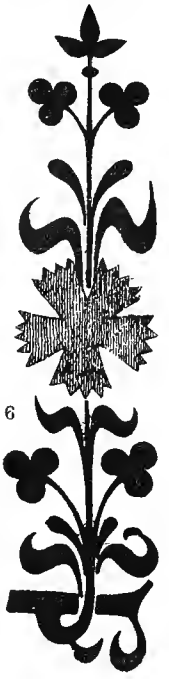

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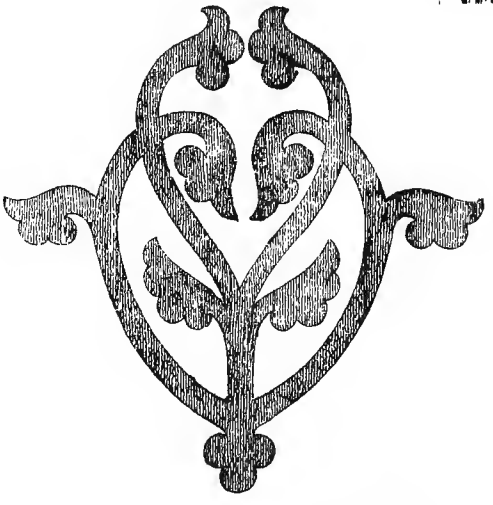

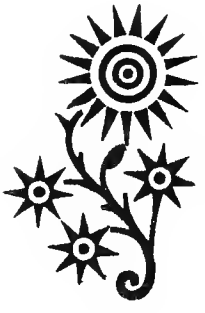

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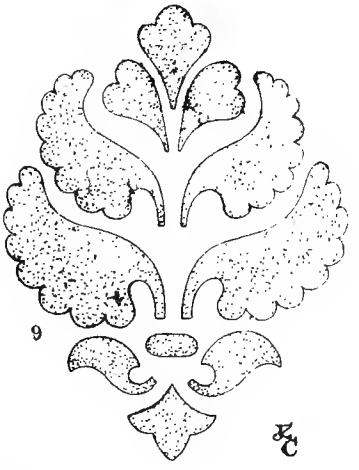


9

ANALYSIS OF FORM.—SPRIGS.

PART II.—ART FOLIAGE.

CHAPTER I.

Coloured Decoration.

IN the illustrations which are given in this portion of the work, I have endeavoured to present as great a variety in the style and design, as was possible — not limiting myself to any one particular kind of ornamentation, but have embraced, as far as I was able, the fullest view of the subject. Examples are given in the flat, as in wall painting, inlays, and flat stone carving, which may be ranked in the same class; the relieved, as in spandrils and panels; and separate and distinct features, as in capitals and corbels. This naturally divides the subject broadly into three groups: — 1. Flat ornament; 2. Relieved; and 3. Separate sculptured features. Each has its peculiar characteristics, and requires a distinct mode of treatment. The first depends upon form alone, as developed by color or shadow; the second on form, with light and shade of surface, as developed upon a ground; the third depends on form, light, and shade, but further upon the form or outline of the object itself. This gives three modes of species; but foliated ornamentation may again be separated into three divisions: — 1. The natural; 2. That which is purely conventional; and 3. Semi-natural (for want of a better term). The first follows nature too literally, and the second adheres too strictly to the stereotyped architectural forms, while the last again appeals to nature, and alters and purifies the received forms by making them natural as well as being conventional. Hence I call it semi-natural. This division is that which I have more especially sought to illustrate.

Taking then, the three divisions in the order above indicated of flat, relieved and sculptured ornament, Plate 11 gives two examples for painted wall diapers for room decoration, the ornaments being intended to be stencilled in the same colour as the ground, but of a darker tone, the small stars alternating with the ornaments, or flowers, to be in gold. A variety of flowers are given in the Plate, but a variation of two or three would be sufficient for each pattern in execution. Monograms may be successfully introduced, alternating with the other flowers, but should not be repeated too frequently. The designs are also applicable to room papers, woven fabrics, matted glass, and many

other purposes. The natural types from which the ornaments are arranged consist of Hawthorn, Lilac, Corn Bluebottle, Ground Ivy, Horse Chesnut, and Ivy-leaved Toad Flax.

The ornamentation of wall surface, whether it be by paint, paper, or carving should invariably be arranged in a flat manner. It should be consistent with, and conformable to, the surface which is intended to be decorated; as the Ivy conforms itself to the nature of the wall to which it clings, by extending its leaves in the same plane as the wall. This may be often observed in the country, where an old wall will be covered with the small-leaved English Ivy, the branches adhering so tightly that they cannot be separated without breaking, and the leaves are consequently laid flat upon the wall. The effect of the whole is to enrich the surface with a beautiful natural diaper without destroying the flatness and character of the wall. This does not refer to the common quick-growing Irish Ivy which has large leaves, with long leaf stalks, and which hang in a pendulous manner, rattling very much in the wind. This Ivy has more the effect of completely burying up the wall than that of merely enriching its surface. It grows more in towns and cities, and it is of use more to cover up a deformity than to decorate an object. The small-leaved Ivy seems to spring up spontaneously, and is the natural accompaniment of an old wall, decorating its surface with beautiful forms, blended with the most lovely variety in color, as though nature took pity on its humble appearance to clothe it in a robe of beauty. There are cases constantly occurring in autumn where the Ivy leaves approach nearly to a crimson, while others of the darkest green are intermingled with variegated ones of a whitish color, all blended together in the most beautiful and harmonious manner.

The Virginian Creeper, when it assumes its scarlet color in autumn, gives a very valuable suggestion for wall decoration. It forms an example of what may be called self-tinted diapers — that is, the color of all is the same, but the leaves in light have a lighter tone than those in shade; in nature, the variation is constant, no two leaves or parts of leaves being of the same tone, yet all are, or nearly so, of the same color. This principle, when simplified, is what is meant by self-tinted decoration. The ground of dark color has upon it flowers of a lighter shade, but of the same color, or *vice versa*. Plates 11 and 12 are intended to be done in this manner, heightened with small stars or lines in gold.

The Wood Anemone, when seen clustered together and covering the whole surface of the ground with its beautiful leaves and flowers, is another charming natural diaper. Its bright star-like flowers, spotted at intervals among its elegantly radiating green leaves, the interstices of which, partially filled with other leaves in shade, and the remainder filled up by the most intense shadow, or peeps of the rich dark earth upon which it grows, gives altogether one of the most lovely natural carpets that can possibly be conceived. The Periwinkle, with its light blue flowers and dark shining green leaves, is another example. There are many others, but they are too numerous to

mention. They all require simplifying for art purposes, and to be arranged in a geometrical or regular manner. The eye must not be attempted to be cheated with a natural representation of nature. The effect and colours may be imitated, and the forms, as in all painted decorative work, may be followed almost literally. But that wonderful variety in the form, light and shade is beyond the reach of decorative art, and should not even be attempted.

Colour for decorative purposes has never been sufficiently studied from Nature. There have been scientific books written to shew what colours best harmonize with each other, but there has yet been no attempt to study and properly appropriate that vast and wonderful scale of colours, which may be found in Nature. Our Mediæval artists used colour in their works to a very great extent, but they dealt simply with colours of one tone; such as red, blue, yellow, green, and chocolate, with white, black, and gold. They made the grounds of their diapers bright green or red, powdered with flowers of gold and black. It is rarely that any intermediate shades are seen. The green is the green which is used throughout, and it is the same with the other colours. Yet in greens alone what a vast number are to be found in Nature! Look at the delicate reddish green of young Sycamore, contrasted with the deep rich, and darker hue of the older leaves, while the underside of the leaves again offers another variation in the green, of a bluer kind. As Cowper says —

> "The sycamore, capricious in attire,
> Now green, now tawny, and ere autumn yet
> Has changed the wood, in scarlet honours bright."

The brownish green of young Oak contrasts well with the darker tones of the older leaves; and, again, the young leaves of Ivy, when seen before the last year's leaves fall off, give a good example for self-tinted decoration. Nature is ever varying her colours, and by the various admixture of red in her foliage, she forms some of the most lovely combinations of neutral greens. It is extraordinary how seldom she makes use of the pure primitive colours. A strictly blue flower is a rarity. The nearest approach to it, that I know of, is the *Salvia Patens*. Most other so-called blue flowers, are more or less purple; as the blue Hyacinth, the Campanula or Blue Bell, Monk's Hood, Bluebottle, and many others. Nature seems to delight in the art of mixing and blending her colours. When the leaves of the Guelder Rose begin to turn red in autumn, they shade themselves into a delicate green — brighter than the usual colour of the leaves — as though, it were the last bright flash from its spring dress before it was totally extinguished by the autumnal red.

It appears to me, then, that we should endeavor to follow Nature, and introduce a more extended scale of colour, instead of being satisfied with such a limited one, as was the case in the middle ages. Modern decorators do use many shades of colour, with neutral green and reds, but there is a vast variety which they do not attempt to imitate, the study of which cannot but be of extreme value.

In Plate 12, which may be for paper-hangings, stencilled wall diapers, or may be equally well applied to various kinds of woven fabrics, the colours are as follow: — The general ground is a light sage green, the ground of the light foliage, a darker sage green, and the tinted foliage, of the dark green of old Ivy leaves, the quatrefoils being surrounded by gold lines, as indicated by the dotted tint. The natural types used in the foliage are Hawthorn, Rue-leaved Spleen-wort, Lilac, Ground Ivy, Oxalis, Laburnum, and Ivy. Two patterns of foliage would be sufficient in execution for each design. Others are introduced in the Plate in order to give a variety.

The decoration of wall surfaces by diaper painting is of very early origin. The earliest form appears to have been an imitation of the jointing of stonework, much the same as our modern mode of scratching the stone lines on the surface of plaster, except that the lines were drawn in a red or chocolate colour. The next step was to omit the alternation of the stones, to make them square, and placed even one over the other, each square being filled in with some simple ornament. This was the origin of wall diapers, and in the earlier ones, as at West Walton Church, Norfolk, scarcely any other colour was used than red, which appears to have been applied upon a warm or cream-coloured plaster; or, as at St. Mary's Church, Guildford, upon chalk, without any paint or preparation put upon the surface. The form of the ornament was indented by scratching lines, apparently from a mould, or outlined with a brush, and afterwards filled in with colour.

In the present day, instead of painting or colouring the surface, the plaster should be tinted in the same manner, by an admixture of colour of any suitable tone, to form the ground for decoration, and the ornamentation placed upon the surface. Painting on stone and woodwork, should be put upon the stone and the wood itself, making the material serve as the ground. The wood may be stained, and statuary marble may be impregnated by colour, and brought to a tint to harmonize with the decoration upon it. The tinting of marble has been adopted by some of our modern sculptors with more or less successful results. What I would advocate is, that, whatever the material, it should be seen and recognized as the ground upon which the ornamentation is wrought. It is true that this is not in accordance with all Mediæval work, although it undoubtedly is with the earliest. But during the latter part of the fourteenth, and the commencement of the fifteenth century, painted decoration was carried to such an extent that the most elaborate stone and wood carving was literally covered with painting and gilding. As a general rule, all foliated work was gilded, a system which cannot be too highly condemned, as there is nothing that so destroys the true light and shade, and gives a false effect to carving, as gilding. I would never gild carving, but always leave it of its natural colour, and reserve the colour and gilding for plain surfaces. Gilding should at all times be used sparingly. It is a very dangerous material, and the finest work may soon be made to look tawdry by it, if it be not applied with the greatest precaution and judgment. The ground may be gilded, and often with good effect, but never the ornament.

Methods for stamping plaster by indentation, whilst setting, have been adopted of late years with good effect, and the old system of pargetting and working various forms thereon by hand, is of a similar character. The wall diapers of the Alhambra, again, are formed in plaster, and there is no reason why the same principle may not be still further carried out, and even brought to greater perfection. Instead of cold marbling in our halls, and heavy flock papers in our dining rooms, why should we nôt have the walls — the plastering of which has been worked to some agreeable tint — decorated by incised ornament, and finished by a judicious picking out of the forms by painting : —

> "Each beauteous flower,
> Iris all hues, roses, and jessamine,
> Rear'd high their flourish'd heads between, and wrought
> Mosaic." MILTON.

Perhaps no species of ornamental design is more grateful to the eye, when properly done, than diaper work on flat surfaces, but it requires to be kept quiet and subdued, and whether by painting, paper, embossed leather, or carved surface, it should always be kept flat in character. The two diapers given in Plate 13 are simple in design, and are for executing by painting with stencil patterns in monotone — as dados of rooms — on plaster prepared by the admixture of colour, of such a tone as may suit the position of the work. The second design may be also incised, by stamping the wet plaster, say to the depth of $\frac{1}{4}$ of an inch, and afterwards filled in with colour. · It is also suited for embossed leather, a material which is admirably adapted for the interior decoration of rooms. In this case the ornament, instead of being incised, should be very slightly raised. The first design may be also applied as encaustic tiles or paper hangings. The foliage is mostly conventional, but in the second design the Ivy and the Hepatica are used.

Dividing plain wall surface of interiors of rooms into panels by flat painted decoration is an ordinary and legitimate mode of treatment, which, by good design united to judicious and harmonious colouring, may be made very valuable. It is especially adapted to house decoration, where, by stencilling the corners and borders, a good effect can be produced without great expense. Enriched corners, with simple line decoration, may be applied also to panels of doors and other woodwork. If the styles are picked out of a different tint from the panels, with the ornament laid therein, woodwork will have a far better appearance treated in this manner than covered by the ordinary graining. At the same time it would give more scope for artistic treatment and variety in design. Flat line decoration may be also applied upon graining, and may be made to look very well. Stained deal and other woods can be treated in a similar manner. When the staining is made dark, an agreeable relief may be produced by putting the decoration in vermillion. Varnish may be used to protect the decorations on woodwork, in the same way that it is made to protect the ordinary graining. Therefore, when once done it will be quite as lasting.

Line decoration, with simple flat ornaments at the angles, and at intervals, give

great finish to a room when applied to ceilings. Dark, heavy colours should be avoided, light grey and cold colours give height to a room, while warm or heavy colours, bring the ceiling down. The general tone should be light and elegant — anything agreeable, as long as it is kept light, rather than the ordinary and vulgar whitewash. Our whitewashed ceilings are a remnant of barbarism, handed down to us from our Puritan fathers — the same who were so fond of *beautifying* our churches with their indefatigable whitewash brush.

Plate 14 gives eight examples for simple corners for panel decoration. No. 1 has a scroll border taken from the delicate little Maiden-hair Fern, but, of course, much simplified. The colours may be a maroon ornament, on a sage green ground; the borders and angles being of a darker shade of green than the margins. The panel is intended to be filled in with diaper painting, or paper of green or other colour, harmonizing with the borders. No. 2 is composed of the leaves of the Wood Anemone, and may be executed in a delicate green upon a warm ground. The alternate leaves in the border may be gilded — the angle flower should also be in gold. The inner lines of the border may be in maroon, with a darker tone of the warm ground colour for the panel. No. 7 is a design conventionalized from the pod and flower of the Sweet Pea. The main lines are intended to be in a dark, blackish green, on a ground merely tinged with green, and the upper parts of the pods of the peas to be of a strong pea green; the flower to be deep rich red, softening into crimson, with a ring upon it of pure white; the inner lines of the border to be red, with a diapered or plain painted panel of dull green. No. 8 is formed upon the Ivy, and may be painted in maroon or deep crimson, upon a buff ground, with the outer line in grey. The secondary foliage upon the Ivy leaves to be white, broken by red. The central ornament is a conventional representation of the seeds of the Ivy, and is intended to be shaded from red into dark green. The blending of red into green, as seen upon some leaves when autumn is approaching, is very beautiful. The inner line and cusping should be in bluish grey, with a panel of warm neutral red or fawn, brought to harmonize with the other colours. No. 3 is conventional, but somewhat after the leaves of the Dog Violet; No. 4 is from the leaf of the Cinque-foil; No. 5 has the character of the Hawthorn; and No. 6 contains one of the triple divisions of the small Fern called Rue-leaved Spleenwort. These last four angles may be used for panels of doors, angles of ceilings, or for any other purpose where flat decoration is appropriate.

Narrow ornamental or pilaster panels are often of great service in panel decoration, where the wall space is large, by being introduced alternately or at intervals with the main panels. Their origin appears to have been the division of surface by the ordinary classic pilaster, the die of which came at length to be panelled. They became favourite surfaces for decoration with the artists of the Renaissance period. Generally, the whole panel was sculptured from base to capital in low relief, but occasionally, particularly when used internally, it was enriched by painted arabesques or Mosaic inlay. Intense study

and art labour appears to have been devoted to these parts, more especially from their being usually on a level with the eye, or nearly so; yet, although there is much undoubted beauty in them, there is something which always strikes one as unsatisfactory. There is a peculiar love for piling one thing upon another, and totally without connection of line or idea. Pedestals, tripods and vases, with a mixture of foliage, accompanied by birds, and parts of the human figure, are set one upon another, in stories as it were, each being a separate and distinct composition, with masks, armour, and various other things hanging by ribbons to the projecting branches, until the entire surface is filled! The whole composition is literally standing upon, and is apparently supported by, the base of the panel. Even the candelabra, and many other objects of the period, partake of the same peculiarity — the setting or piling up one object upon another. Now, what occasioned this peculiar mode of treatment? Ornamentation of surface should have no appearance of weight, or be indicated as a feature standing alone upon a base, with objects depending from it, like a Christmas tree. The Renaissance artist made his horizontal decoration continuous in one direction, or flowing from centres at intervals, in a perfectly legitimate manner; but it would appear that when he came to upright composition, the spirit of the horizontality of the classic styles, so imbued his very nature that his only idea of upright ornament was to divide it up into a certain number of parts, and treat each part in a horizontal manner.

There is no reason why an upright composition should not be made continuous, and flowing upwards or downwards, without its being made to look as requiring any support; or that it should not be arranged from a centre, with the ornamentation extending both up and down. The principal figure in the centre of Plate 15, No. 5, represents the centre for a pilaster panel, with the foliage reversed in this manner. A portion of the design can be again repeated for the top and bottom of the panel. Some objection may possibly be made to placing foliage, as it would be called, upside down, but it requires no apology. It is simply a symmetrical repetition of form, which, as a rule in art, may be repeated in any direction suited to the nature of the composition — except being made to grow in two directions upon the same stem. Upright repetition is suggested. in nature by reflections in water, as indicated most ingeniously by the bulrushes, by Mr. John Leighton (Luke Limner), on the frontispiece to his "Suggestions in Design."

Repetition of form is of three kinds: — by radiation round a centre, as in flowers — by symmetrical repetition on each side of a centre line, as in leaves — or by the simple repetition of the same object at intervals, as we see the daisies among the grass, or the trefoil in the clover field, which in art become roses or leaves arranged at regular intervals. But to return to the description of our figure (Plate 15, No. 5), the centre hexafoil contains the six-petalled flower of the Wood Anemone, slightly conventionalized, surrounded by the tri-formed leaves of the triple involucre, which invariably accompanies the flower. The flower is intended to be in gold, with the leaves, or involucre, of light

delicate green, and may be slightly shaded on the surface, but not so as to destroy their flatness. The ground of the hexafoil to be of a brownish red, deepened to a chocolate color in the centre. The general ground of the panel to be buff, with main lines and spandril ornaments of rich maroon. The leaves terminating the lines and calyx of the flower to be dark green, and the flower, which is of the Pink tribe, to be gold or scarlet. The inner ground of the panel to be pale blue or grey.

Nos. 1, 3, 7, and 8, are sprigs for centres of panels. No. 1 is formed of the leaves and the elegant leaf-like calyx of the flower of the greater Bindweed, when it first bursts forth the white twisted tip of the corolla. The corolla may be gold, the calyx and stems pea-green, whilst the main leaves and stalk may partake of that subdued crimson, or maroon, which paints the autumnal foliage. No. 3 is from the highly symmetrical leafage of the Horse Chesnut. The peculiar droop of the young foliage when expanding gives the idea of the side leaves. The leaves may be bluish-green, and the stems rich russet. No. 7 is from the leaves of the garden Rue; and No. 8 from the *Adoxa Moschatellina*. In the latter there is a slight variation from the rule of uniformity, which, when not made too prominent, can scarcely ever fail to lend a piquancy to ornament.

Nos. 2, 4, and 6, are examples of borders, The first is from the seaweed, *Fucus serratus*, and its clinging tendency to the main stem is in accordance with its natural habit. The flowers, which are conventional, are intended to be gold, the stem and upper part of the foliage red, with the reverse or lower part dark sea-green, and the ground grey. No. 4 takes the general form, omitting the minor subdivisions, of the leaves of the Guelder Rose. The upper stems, crossing the lower, give contrast of line and reversed leafage. The foliage may be claret, on a buff ground. No. 6 is from the pinnate leaves of the Venus' Comb, alternated with flowers of the Corn Cockle. The leaves may be green and flowers gold, upon a warm ground. Of course, these colors are merely suggestive, and would probably require to be modified according to the tone of other work with which they may come into connection. The object must ever be to obtain a harmonious whole, which cannot well be studied in parts, but must be determined by the eye and judgment of the artist.

Mr. J. G. Crace, shortly before the opening of the International Exhibition, 1862, read a most interesting and instructive Paper before the Society of Arts, Adelphi, upon the decoration of the Exhibition Building; and whatever may have been the merits or demerits of the building itself, there never could have been two opinions as to the great merit shown by Mr. Crace in carrying out the decorations. In this Paper he very justly said that "an experienced artist can bring any two colours together;" that is, so as to harmonize with each other, "by properly modulating them." As an instance, he referred to Nature, which, he said, never errs, "whether it brings together scarlet and crimson, as in the Cactus; scarlet and purple in the Fuschia; yellow and orange, as in the Calceolaria; or the colours in the varied plumage of exotic birds — the harmony is

always beautiful, ever perfect." He further adds some very excellent contrasts of colors, which, coming from a man of such varied experience, are particularly valuable. They are : —

1. Black and warm brown.
2. Violet and pale green.
3. Violet and light rose colour.
4. Deep blue and golden brown.
5. Chocolate and bright blue.
6. Deep red and grey.
7. Maroon and warm green.
8. Deep blue and pink.
9. Chocolate and pea green.
10. Maroon and deep blue.
11. Claret and buff.
12. Black and warm green.

In ornamental painting for wall surface, parts may be shaded in self colour, or a blending of colours may be occasionally used, as with leaves in Nature, but they should never be represented as in relief. They are a part of the surface, and they should partake of the flatness of that surface. Above all, never let the artist descend to representing sham architecture, for this is the most vicious form of decoration. The interior of the dome of St. Paul's Cathedral, has been painted to represent an arcade, with every detail shaded! At the Painted Hall of Greenwich Hospital, imitation cornices, brackets, flutes, and other architectural members, have been so mingled and mixed up with real ones, that the vision becomes disgusted with the unpardonable repetition of deceits!

CHAPTER II.

Carved Wall Surface.

FOLIAGE is often applied in a perfectly flat manner, as in the stencilled wall diapers already spoken of, Plate 11, merely developing the outlined form by the aid of two or three simple colours. Decoration in stone for flat surfaces may also be carried out in a somewhat similar manner by obtaining two tints, simply by sinking from the surface of the material. This mode of ornamentation is common in the Byzantine, Romanesque and Moorish styles, the interstices being often filled in with colour, ornamental marbles, or mosaics, and it is capable of still further development. Fully carved foliage, when executed in an open-grained sandstone, frequently has a tame and clumsy effect, from the difficulty the roughness of the material presents, of obtaining a sharp and crisp outline. With such a material it is far better not to attempt too much, but to be satisfied with a more simple mode of treatment, as exemplified by Plate 16. The surface of the enrichments is kept perfectly flat, except where one part overlaps another. The light and shade, are made more sudden than would be the case in perfectly sculptured carving. If the same treatment were followed in a very fine material, as statuary marble or alabaster, the foliage would have a crude and unfinished look. But, in a coarse stone, minute shadows exist, from the inequalities of the surface, which, even in the brightest lights, considerably reduce and soften the contrast between the light and the shade. It is, at the same time, very easy of execution, for, by preparing a zinc mould, after the manner of a stencil plate, the whole of the foliage can be marked out upon the surface of the stone, and the grounds sunk by any ordinary mason. It is also applicable to cement work, by laying the mould upon the surface of the cement before it is set, and then cutting out the interstices with a tool, leaving a rough surface to the ground. This is a natural way of working cement, and is far better than cast work, which usually has a very smooth and tame appearance. The forms made use of in the keystones and arch bands are taken from nature, but they do not follow closely any particular type. The keystone should project beyond the arch bands, and have other mouldings around it, but they are omitted in the Plate, and the whole shewn on one surface, to avoid the room they would otherwise occupy.

Wall surface forms the plain ground to architecture, as the canvas forms the ground to a painting, and it requires various modes of treatment to bring it into harmony with the architecture which it accompanies. We too often treat it as a mere uniform plain

surface of stonework. But of late years we have acknowledged the value, in most of our modern churches, of following the old examples, by putting wrought quoins and dressings, and filling in the remaining wall surface, with rougher and smaller stones, often of a different tone of colour. The advantage of this was pointed out by Pugin, in his "True Principles;" and architects have followed his advice ever since. It is a species of enrichment, by the aid of stone lines and colour, of the plain surface of the walling. Some architects have run to most outrageous lengths, and have striped up their wall surfaces with violently contrasted brickwork, until they have gained for their buildings the cognomen of the "Holy Zebra style." This, is, however, all working in the same direction, to gain tone, colour, and enrichment upon plain surfaces, although unfortunately it is often done without much judgment.

The early Mediæval artists decorated many of their wall surfaces with sculptured or painted diapers, which were frequently introduced in the most artistic manner. These sculptured diapers were often formed by the most simple means; the most simple being that of merely incising the form of the ornament, as shewn by Fig. 82, and by the centre stones, Plate 17, which may be termed drawing the form upon stone. It may be remarked that the incised, perhaps, is the earliest form of sculptured ornamentation. Fig. 83 is from the Norman, and shews how the flat background of the ornament may be avoided

Fig. 82.

Fig. 83.

Fig. 84.

altogether, making use of the angular or V section. This was very common in the Norman period, and not only geometrical forms were executed in this manner, but much of their foliage, and it is at all times very effective and simple. It is a remarkable fact that this system of carving is to be found in the Early Greek, and afterwards appeared

Fig. 85.

Fig. 86.

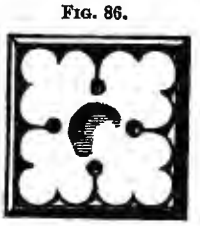


Fig. 87.

again in the Byzantine, from which, no doubt, it was borrowed for our Norman. The form of the flower also, which is common both in Norman and Byzantine, is evidently of Greek origin, and as I have before noticed, may be even traced back to the Assyrian. Fig. 84 represents the ornament, formed out of the surface, without a ground, as if stamped in, the surface being left higher than the enrichment. This is a manner which

is used in Egyptian sculpture. Fig. 85 shows the ornament upon the same face as the ground, and indicates how it may be introduced upon polished surfaces, the form being developed by an unpolished surface only. Fig. 86 shews a simple form of enrichment, by sinking the ground round the form of the ornament, and merely developing their simple broad forms. Other examples of this are given on Plates 16 and 17. Fig. 87 is an example of enamel inlay, and is akin to the last, the whole of which may have the grounds filled in with coloured cement or marble, as inlay for wall decoration.

The Classic architects felt the same want as the Mediæval — the necessity of treating ornamentally, some of the plain surfaces of their walls; but, independently of their beautiful treatment of the figure for wall surfaces in friezes, they arrived at a much more moderate result. The Early Italian architects appear to have noticed the value of rough walling in giving tone to their surfaces, and in imitation of this they proceeded, in their more finished works, to mark the joints of their stonework by strongly indented lines. This has come to be termed "rustication," and the channels "rustics." The surfaces of the stones, also, were often left rough to gain more tone and colour. This was, however, nothing more than another mode of gaining a diapered surface for plain walling.

Rustication was usually confined to the lower portions of buildings, but the angles of the upper parts were made more pronounced by projecting quoins, using the indented lines of the rustics to form the edges of the stones. In later work the artists frequently picked out the surface of their quoins in senseless imitations of rock work or vermiculated work, instead of which they could be more elegantly filled with foliated designs, either incised, or the ground sunk, leaving the ornament flat. Plate 17 contains examples for the treatment of quoins and rusticated work in this manner, the foliage being kept simple and flat, so as to retain the plane surface of the stonework. The quoins are after the same manner as that shewn for keystones and arch bands in the previous plate. The ground of the ornament may be left rough, and need not all be of the same uniform depth. The incised ornaments may be filled in with dark coloured cement, even with the surface of the stonework. The natural types used are, commencing with the upper left hand stone, No. 1, Maple; No. 2, to the right, Parsley; No. 3, Canariensis; No. 4, Ground Ivy; No. 5, Potentilla; No. 6, Creeping Crowfoot; No. 7, Yellow-horned Poppy; No. 8, Wild Strawberry; and No. 9, Flowering Currant.

Sincerity is of paramount importance in design. Architecture should at all times be decorated in a truthful manner, which should invariably be suited to the different materials used. Wrought metal has little danger of losing its distinctive character, from the difficulty of making it assume the appearance of anything else; but cast metal has been most shamefully abused. Cast iron has oftentimes been made to imitate stone, and painted and sanded to make the deception closer. Yet cast iron is an honest material, which lends itself freely to the aid of the ornamentalist, although, from misuse, it has fallen into a certain amount of disrepute, and, wherever the cost will permit. it is

discarded in favour of wrought. It has, however, for external use, certain advantages over wrought iron, quite independent of cost, which are well worthy of consideration — its lesser liability to oxidation from the effects of the weather, and its presenting fewer joints than wrought iron into which the water can penetrate. The manner in which wrought iron is obliged to be put together in a great number of parts, causes numerous interstices into which the wet finds its way; which, from the expanding process of oxidizing, causes the work, in process of time, to burst and split. When once begun it soon leads to the ruin of the whole work. Cast iron permits itself to be moulded in every possible variety of form, and admits of such a multitude of shapes, that it does not preserve to itself that distinctive individuality, as a material, that most other materials do. It, therefore, unconsciously appears to lend itself to that sin of imitating the appearance of others. If, however, it be used honestly, and for itself, it will admit of great beauty of form, be lighter, and more delicate in size than either stone or woodwork, but yet not so light or intricate as wrought iron.

In the use of wood in joinery and cabinet work, the modern system gives rise to many vicious practices. In panels of doors and other work, mouldings are almost invariably laid in or applied, instead of being worked out of the styles and rails; and ornament is continually being stuck on by glue upon the surface, instead of being carved out of the solid.

In the use of cement, although it is necessarily an imitative material, much might be done towards its improvement. The way in which the common "Roman" cement is so often used for "composing" the fronts of houses, and then washed all over with a staring, vulgar, yellow wash, is most disgraceful to any trade. Cheapness, however, will, it is to be feared, always cause cement to be used. Still, when it is known that good self-coloured "Portland" cement is cheaper in the long run, than the coloured-up "Roman," there is no reason why it should not supply its place. Further, if we must use cement, we should take care to adopt the best of the kind. "Portland" cement will admit of considerable ornamentation, as I have already mentioned, without having so much recourse to cast work. It will also admit of ornamentation by the aid of colour, by mixing with it a variety of permanent colours, as buff, red, grey, and black. Being mixed with the material itself they are perfectly indelible, and many pleasing combinations can be made with them. Ornamental inlays for stringcourses, quoins, keystones, or other parts, may also be readily formed in the coloured cement; as a black inlay upon the natural colour of the cement; red upon buff; buff upon black, and many others. The effect is very good, and it forms a legitimate mode of using the material. The durability of "Portland" cement, if properly used, is one thing greatly in its favour. There are many buildings in London, which have now tested this for a great number of years, and there can be no question that it stands better than most of the common building stones which are used.

Stone, as a material, admits of being used in one way only, and that is characteristic

of itself. Yet, when ornament is overlaid and added upon the surface, it cannot be said that this is a mode which is entirely suited to it. The mason takes a great amount of unnecessary trouble, for which no one gives him credit, and when done the carving has only the same effect as when added on in cement or composition. A large quantity of material is used and great labour is involved in "boasting" out the work, while if recessed from the surface, no addition of material is required, and no more work is necessary than for developing the ornament itself. At the same time, the decoration is in better architectural propriety and truth. No system, therefore, for decoration of stonework, is so legitimate as sculpturing within the surface of the parts to be decorated. Of course, I do not refer to separate ornamental features, such as statues, capitals, crockets, finials, bosses, and the like. But if a shaft of a column, for instance, is to be enriched, the ornament should be taken out of the surface, in the same manner that flutes are cut out of it, which are ornamental additions, and not added upon it. If a cornice is to be decorated, let the enrichments be confined within the mouldings, unless they are added as separate features, such as heads, bosses, or gurgoyles. If a panel, or a spandril, or a wall is to be decorated, let the ornament be taken out of it and not overlaid upon it.

As an example of the modern stuck-on or sham principle, may be cited the Corn Exchange at Ely. This building, as a large date cut upon it informs you, was erected in the year 1847. It is a shabby-genteel building of brick and stone, with a Corinthian portico of six columns, apparently all of stone. When examined, however, closely, the pilasters are of stone to only one-third of their height, the remainder, with the capitals, being in cement. But the most curious thing is the cornice, which is all stone, except the dentil course, which is in cement, and is now in several places falling off! So that it appears that this building cut its sham teeth in 1847, and now, in the year 1865, they are dropping out from old age, and exposing its brick gums on to which they were stuck.

In carved surfaces of walls, nothing is so appropriate as flat diapers, arranged upon a geometrical division. In Plate 18, which contains designs sufficient for several diapers, the geometrical form adopted is an imbricated trefoil. If intended to be applied for wall surface, the leaf used should be broad and simple, as shewn by the first and third examples. No more than two varieties, at the most, should be introduced, in order not to interrupt the flatness of the surface, which a greater variety would be apt to do. For panels and small surfaces, the foliage of the fourth and fifth whole compartments, in the plate may be used. The animals and birds may be adopted, interspersed with foliated compartments, for jambs of doors, panels of altars, or other small surfaces near the level of the eye. The natural types from which the diapers are taken are — No. 1, Water Avens; 2, Doves; 3, Cow Parsnip; 4, Poppy; 5, Ivy-leaved Toad-flax; 6, Animal with Maple foliage; 7, same as No. 1; and 8, Animal with Hawthorn foliage and berries.

It is a common practice in modern ornamentation, to make the foliage grow two ways at the same time. This is seen more particularly in the ordinary designs that we are so constantly meeting with, for furniture and picture frames, and which are taken mostly

from the fantastical enrichments as developed in France during the reign of Louis XV. The practice, however is so contrary to all natural laws, that it cannot be too strongly condemned. All growing or leading lines in foliage, should invariably throw out shoots in one direction only, and that should be in its growing or flowing direction; but there are many cases in modern ornamentation, where it is evident that this rule is broken, simply through want of thought and study. To make foliage grow in two directions is a vicious practice, which has no doubt risen up from the difficulty of managing satisfactorily, the commencement of an ornament. The difficulty, therefore, was obviated by making it grow from both ends at the same time, but it was at the expense of truth, and it is, morever, in violation of our ideas of consistency. Even the Greek is not free from the same fault, for in the Anthemion ornament, although it does not obtrude itself prominently, the S shaped scrolls are growing out at each end. In the Ionic volute, also, the two spirals flow both from the centre; one, as it were, grows out of the other, and gives the capital a remarkably stiff and unnatural appearance. The Roman architects appear to have seen this defect, and obviated it by discontinuing the volute across the front of the capital. They formed the volute into two, and made them spring from behind the enriched moulding which comes immediately below them, and placed a flower between to supply the deficiency in the centre.

CHAPTER III.

INLAY.

IN nearly all periods of art, animal form has entered largely into every species of decoration, and has been closely interwoven with forms taken from the vegetable kingdom. There are various modes of rendering these forms for the purpose of suiting them to their several uses and positions, and a research into the principles which guided the artists of old would be of the greatest value. Take, for instance, the conventional rendering of the Lion — what numerous types it assumed, first, in the Egyptian, then the Assyrian, afterwards followed by the Greek, the Roman, and so on, age after age, through the Romanesque and Mediæval periods, down to the sixteenth century; each age stamping upon it the peculiar characteristics of its own art feeling, often teeming with ideal fancy, and yet imbued with sufficient natural character to establish its identity.

One mode of rendering animal and vegetable form, which is of the very earliest origin, and yet, more or less, running through every period of art, is in the flat; that is, representing them merely by the aid of two colors in painting and inlay, or two surfaces in sculpture — leaving the thing to be represented in its simple block form, trusting entirely to its outline for expression. Simple as this mode may appear to be, it is extraordinary what a vast amount of character and force may be obtained by it, admirably suitable for the purpose of subordinate ornamentation and enrichment of surface. Much has been already said relative to flat surface ornamentation of a foliated character. Plate 19 carries the subject a step further, and shews animal form applied in a similar manner. Here the outlines of a few familiar animals, have been treated in the flat, in the same way that I have suggested, as a means and a system, towards the conventional rendering of leaf form. If we look back to the Egyptian and the Assyrian, the Roman Mosaic pavements, the " wall veil " inlays of Italian art, to the early tapestry and woven tissues, or to our own Mediæval tiles, brasses, wall paintings, heraldry, or manuscripts, we shall invariably find the flat representation of objects more or less at all times adhered to, and as a principle never lost sight of.

The first enrichment of surface was by symbols and hieroglyphics, as in the Egyptian. The woodcut (Fig. 88) shews with what force and decision the character of the Vulture is rendered by them merely by the aid of its block form. There is a wonderful strength

and purity of line in Egyptian ornamentation, which will amply repay the most careful study. It is only in early developments of architecture and decoration that we meet with simplicity and purity — all late developments run into intricacy and complication, which is often the greatest bane to art. In the Assyrian we see with what delicacy of feeling flatness is again rendered by the low relief of their wall sculptures; although the sculptures themselves are carried to the highest point of finish, and without omitting a line which is necessary to their composition; but as if fearing that the principle should be in any way lost sight of by the excess of finish, a band of arrow-headed characters was wrought through the whole, to accentuate and thereby retain, as it were, the actual flatness of surface.

Fig. 88.

This principle is seen in every period of true art, but, without going particularly into every one of its phases, it was never more distinctly seen than in the numerous examples of encaustic tile paving, which have been handed down to us. In those found at Salisbury, Winchester, St. Cross, and other places, the flat rendering of both animal and vegetable form — simply trusting to its outline, blocked in with colour — is plainly apparent. In the Trinity Chapel of Canterbury Cathedral, there is still remaining a marble inlaid pavement with circles containing figures and signs of the Zodiac. Fig. 89 is a representation of one of the circles. Although nothing but the form of the figure is expressed, yet the life and action are there as clear as if it were ever so elaborately worked out. Plate 19 contains circles arranged for a similar kind of pavement, and may be accompanied with foliated or geometrical forms, connecting the whole in one design. They are, however, equally appropriate to wall decoration and painting, for centres among foliated design.

Fig. 89.

The disposition of animals within a circle must have been of very early origin; They are so often found thus arranged in early work; and it is curious to see with what freedom of conception the figures were arranged to fill the form. Often a head was bent or the back was raised to suit the circle. A glorious example of the power of these early artists had over form, may be seen in many of the existing Norman doorways, as in the Prior's entrance at Ely Cathedral, where a series of circles are arranged on each side of the door, containing a number of well-designed figures, all admirably harmonizing, by the accommodation of their lines, to the circles which contain them.

Plate 20 is for an inlay panel intended to be executed in marbles of various colours, and is designed as a pictorial illustration of that beautiful passage taken from our Lord's Sermon on the Mount: —

"Consider the lilies of the field, how they grow; they toil not, neither do they spin: and yet I say unto you, that even Solomon in all his glory was not arrayed like one of these." — St. Matthew, vi. 28.

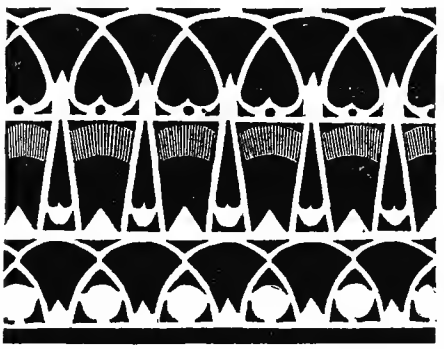
With so high and holy an authority, how low must ever stand the most consummate work of human art when compared with the works of our Creator.

Perhaps no people have more beautifully idealized the vegetable world than the Egyptians. True, the sources from which they chose to draw art were few, but those they translated with beauty and simplicity. I have already spoken of their charming lotus lilies and of their elegant combinations of the most simple forms. How many pass carelessly by those dingy frescoes and hieroglyphics in our museums, little dreaming what a fund of art lies in them!

The woodcut, Fig. 90, is a simple incised outline cut in stone, of great purity of design and natural feeling. Taking up somewhat the same idea of grouping and that upright line of life, I have formed — as an example of inlaid mural decoration — the arrangement of clustering lilies. It will be observed that much of the force of the design depends on a judicious fitting in of form within form, as a bud between two developed flowers. In this, again, we see the manner of the Egyptians, as shewn by the woodcut, Fig. 91, which is taken from the ornamentation of a mummy case in the British Museum. The lower series of leafy fronds, curling inwards similar to the Heliotrope, and expanding fanlike, as in the Palm, serve to give mass to the base of the composition. The crest of Lilies at the head of the design suggested the use of the semicircular arch; and, although the general treatment is somewhat Egyptian, still the Romanesque feeling of the outer portion, is in harmony and keeping with that which is within it. All Early styles in their simple treatment of form have a kindred feeling, as if arising from some common stock of primitive thought. There is much similarity between our ponderous and Early Norman forms and those in the Egyptian, although so greatly separated by time and distance.

Fig. 90.

Fig. 91.



The materials of the inlay may be white, green, and grey marble on a warm ground, the drawing of the outline being made prominent by black marble or cement. The band at the foot of the panel may have alternately red and blue grounds to the white roses, with lines and divisions in black, the same as the main portion.

Other smaller examples of Inlay are given on Plates 49, 50, 56, 57.

CHAPTER IV.

SPANDRILS.

FOR arranging lines of stems for flat surfaces, as in spandrils, the most simple of all forms will be three lines issuing from the centre and running to the points of the triangle. These lines are in harmony with the surrounding lines, because they do not approach too near, or in any way jar or interfere with them, and they are simply a geometrical division of the triangle into three other triangles. Further, it is natural, and if we still carry out the principle, as in Plate 21, of subdividing in threes, we follow again a common law in nature. This spandril is arranged upon the leaves of the Wood Anemone, the intersections of the stems being clothed with the stipules of the Thorn. The natural leaf of the Anemone is given on the upper part of the Plate. It will be at once seen that the imitation is not literal, and the terminal leaves are altered in general form to suit the form of the spandril. Six of the leaves represent the upper surface and three the under surface, and a peculiarity is endeavoured to be developed by the insertion of the leaf stalk near the centre of the leaves, instead of at the bottom, as is most usual, and the radiation of the veins takes place from this point. Very little undulation of surface is given, or is necessary to the leaves; but the ground should be deeply recessed for shadow, so as to give value and brilliancy to their radiating forms, which would be marred by too much light and shade upon their surfaces. This is a point specially to be attended to, in order not to lose the beauty of form when it has been once secured, either by making the form too detailed, or putting too great an intricacy of light and shade, so as to interfere with it. Simplicity of composition, both in form and light and shade, is one of the things at which the artist should strenuously aim. It is far easier to get into minute complication and subdivision than it is to adhere to simplicity. Complication is a power which is very attractive, and one which is not easy at all times to avoid. It is a fault which even nature is sometimes led into by the cultivating hand of man, at the sacrifice of her original and most beautiful forms. This may be easily seen by comparing the cultivated garden forms with the simple and original wild ones.

Where less severity is desired in ornamentation, the strictly geometrical lines may be concealed by minor irregularities, as in the case in nature. This has been the intention in designing the two spandrils here given (Plate 22). Less geometrical precision and

less severity of line are observed than in the last spandril (Plate 21), although the arrangement is still geometrical. That is, they are first divided by a line transversely through the centre, and then by branches leading to the extremities of the triangle; the two halves being pretty evenly balanced in light and shade. The one is from the Hop and the other from the Hazel, and more minutiæ has been introduced into the detail than is usual. They are therefore intended to be for a situation near the level of the eye, and to be executed in wood or in a fine grained stone, while the spandril in Plate 21, from its simplicity of arrangement, would bear to be placed at a considerable distance from the eye. Much, of course, would depend upon its size, but with distance must come simplicity of arrangement.

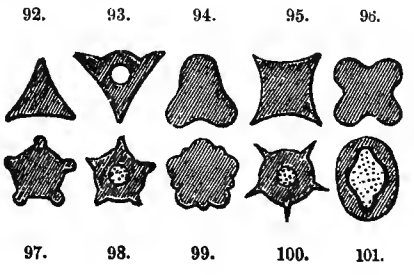
The small quatrefoil panel at the bottom of Plate 22, is an attempt at a conventional arrangement from the natural Hawthorn leaf and stipules, given at the top of the Plate, and it is intended to occupy the position of a spandril between the arches of an arcade. I have often been asked to give some definite rules for conventionalizing nature in its application to architectural ornamentation. There are, however, as has been already observed, no positive rules beyond the general ones, that it should be made more symmetrical than in nature, and that the amount of severity or freedom, given to a subject, must depend entirely upon the feeling of the artist, the purpose and position of the ornamentation, or the material in which it is wrought. Now, where space will admit upon the Plates, as in the present instance, it will be an evident advantage to place nature in juxtaposition with the ornaments which have been designed from such natural examples, by which it will be at once seen how they have been adapted, and the comparison will thus supply the want of more specific rules. A series of Plates in Part III. are also given of examples taken entirely from nature. The stipules of the Hawthorn, which are here shewn in the natural example (Plate 22), are two most elegant appendages situated at the base of the leaf stalk, one on each side of the thorn, and they contain some very graceful lines, which, although hitherto left unnoticed for artistic purposes, are evidently capable of being very happily introduced, and are well worthy of being carefully studied. They do not occur on all Hawthorn bushes; on the tree, I believe they are never found; but they are developed most in the young and vigorous shoots which spring up in long straight stems, almost from the base of the bushes, and are the growth of a single season. Why they are found under one circumstance, and are wanting under another, I have not been able to ascertain. An attempt in the lower figure (Plate 22) has been made to introduce them as a means of filling up the lower lobe of the quatrefoil, and by placing them somewhat at an angle with the main leaf, as they occur in nature, to obtain variety with light and shade. Stipules were also introduced in the spandril given in the last plate. Although never occurring in the Wood Anemone, from which this spandril is arranged, still it is perfectly legitimate to introduce any feature belonging to one plant and adapt it to another, so long as it is done in a natural manner. It is much the same thing as putting leafy tails to animals, or foliage for hair, a practice of which the old artists were very fond, and of which they have left us some very

happy examples. It is a legitimate practice in art, of which greater advantage might often be taken.

In the upper spandril (Plate 23) the natural type chosen is the Hepatica, but the terminal leaves partake of the nature of those of the Guelder Rose. In the lower spandril the natural type is the Wood Anemone, while the leaves are after the manner of the young leaves of the Creeping Crowfoot; and the terminal ones are serrated with the Hawthorn character. The centre of the spandril contains the flower of the Wood Anemone, which consists of six petals, arranged in two threes alternating with one another. It forms a natural emblem of the Trinity, placed in the conventional one. The leading lines consist of three triple branches issuing from a circle, being again emblematical of the Trinity. In the upper spandril, in which the circle appears again, and is formed into a somewhat conventional crown of thorns, the main lines spring from the bottom, divide, and pass through the crown to the upper angles of the spandril. They are, of course, intended for an ecclesiastical purpose, and if executed of a tolerably large size, would admit, from their simplicity of composition, of being placed at a considerable height.

Sculptured stems require peculiar treatment, and can seldom be rendered as in nature. In stonework the nature of the material and the necessity for developing the leading lines with vigour, require them to be made much stouter than they are usually found in nature. Their treatment varies greatly according to the composition, but they should usually be partially concealed by the foliage lapping and crossing over them; yet there must be enough of them seen to shew the continuity and flow of the lines in the design. If they be too much hidden, the work will appear disjointed and unnatural, and the foliage have the appearance of mere bunches of leaves put together without order or design. The most elegant trees show their anatomy sufficiently plain to give a natural connection to the various parts, even when fully clothed in their summer foliage. The kinds of stems which are best adapted to carving are fleshy, succulent ones, such as belong to plants which grow in damp and boggy soils — as the celery-leaved Crowfoot and the Comfrey. The flower heads of the Comfrey also contain a spiral form which is particularly elegant and suggestive.* There is a considerable variety in the sectional forms of natural stems, and the angular and ribbed ones more especially are well adapted for conventional purposes.

The following sections give some of the principal varieties, most of them enlarged from nature, but arranged of an equal size for convenience. Fig. 92 is the section of the stem of the common Sedge; Fig. 93, the Vetch; Fig. 94, Fern; Fig. 95, Dead-nettle; Fig. 96, Sting-nettle and Woodruff; Fig. 97, Nettle-leaved Bell-flower; Fig. 98, Broom; Fig. 99, Butter-cup; Fig. 100, Comfrey, and Fig. 101, Young



* *See* Part III.; No. 29, Plate 71.

Ash. The last, which is oval, flattens out very much as it approaches the buds, which issue in pairs. The oval is then reversed, which again flattens as it approaches the next pair of buds, which are borne at right angles to the last. Perfectly round stems in carving, except upon a small scale, look too often like rolled-out dough, and very seldom have a good effect.

In the Red Bryony, which is the natural type from which the foliage of Plate 24 is taken, the stems are very slight, as it is a trailing plant, clinging to the bushes in the hedges by its delicate tendrils. The natural stems have, therefore, been abandoned, and large succulent square ones substituted, as in the Dead-nettle, shewn by Fig. 95. They also agree with, and appear to carry on the ribbed form of the animal from which they issue. The square stem was always a favourite one among the Early English carvers, as giving great decision of line with sharpness of light and shade.

The subject of the spandril is a fanciful one; an animal is about to make a spring upon an unconscious snail, and it is supposed to represent the enjoyment of the glutton at the sight of what he considers a tempting morsel. The form of the leaves of the Bryony, which is given at the bottom of the Plate, is somewhat of the character of the Maple, but is more angular and decided in the modelling. The general and abstract line in the spandril, is a circle in a triangle, with a ball of light for its centre. In detail the line is a spiral, throwing out a leaf to each angle. The circle is completed, or rather its completion is suggested, by the animal, leaf, snail, and berries leading round to the main stem.

Grasses, Sedges, and many slender Ferns frequently offer the most elegant and graceful lines, from the pendulous nature of their branches and leaves. It is quite a study in Autumn to lie down among the tall grass, and watch their various forms and the manner in which they sometimes cross each other, often suggesting the most graceful combinations. The Ferns contain a perfect mine of beautiful lines, from the moment they push their elegant little scrolled heads through the ground, to their full and utmost ramifications, and even extending to their very decay and the crumpled forms they take in withering. The spandril, No. 1, Plate 25 has been suggested by the interlacing of grasses, and by the small fronds of a little fern called Forked Spleenwort. It gives a variety of a long and slender forked foliage, by adopting which, with elegantly interlacing lines, may be made to form many combinations of great beauty. Grass seeds also could be occasionally very happily introduced. Interlacing forms of this kind are well adapted for pierced woodwork, or fretwork of any kind. The spandril No. 4 contains lines of a similar nature, but with the delicately divided foliage of the Fumitory. No. 3 has again the interlacing lines, but retaining the rigidity of the Holly. No. 2 has the conventional scrolled form, but introducing leaflets in pairs, with an odd leaflet at the end, as in the Ash. The fruit is the Potato Apple.

We see thousands of beauties in nature on every side of us, and if we only knew *how*

to apply them to our own purposes we should soon be able to create a new world of art beauty. But that is what we have to ask ourselves. How can we apply these elegant forms and subtle combinations? We are puzzled and amazed at their wonderful intricacy and perfection — and yet how imperfect! We attempt to analyze the beauty of natural lines — but how often they upset all our own laws of beauty! If we are tracing the intricate network of a leaf, we are delighted at the elegance of the curves; but all at once we come to a most awkward turn — a wilful kind of vagary that entirely disagrees with all our own notions. We cannot see why, nor wherefore, but are obliged to give up our search and return to our own conventional way of producing what we term "the beautiful." We smooth all down to our own tangential curves and lines. We see nature literally revelling in all kinds of odd corners and junctions, without two forms being alike, "kicking over the traces" in every direction; and yet, all is beautiful! Beautiful without effort — it seems even beautiful without being able to help being beautiful! We see the beauty, we acknowledge it and appreciate it; but how can we apply it? We seize upon it, work upon it, and we think we have it at last, but unfortunately it somehow flies from our grasp, and nothing is left, under our hands, but a dull, dead form. We may have been very near success, and yet have failed time after time. The life and the vigour which should stamp our works with beauty are not there.

How often will such thoughts as these occur to those artists who closely and ardently study nature for the purpose of applying its forms to art! But this should not produce discouragement; for, with steady perseverance and study, at last will come a sudden thought, created, it may be, by a happy state of mind, or by some new point of view, which will quicken our every-day forms, and enable us to add that life to our works without which, all our efforts are of little value. Often may we have walked over the same country, or have examined the same flower, without our being able to detect anything uncommon in it; but something may happen to draw our attention to certain features, which will cause us to see beauties of which we were before totally unconscious. It suddenly becomes an old friend with a new face. We are then in a position to take advantage of our fresh views for the purpose of art: —

"———— But must needs confess
That 'tis a thing impossible to frame
Conceptions equal to the soul's desires;
And the most difficult of tasks to *keep*
Heights which the soul is competent to gain."

WORDSWORTH.

It may be considered that these remarks do not much apply to the present Plate (Plate 26), which perhaps may be thought to be nothing extraordinary. It is simply a spandril with a circle in the centre, and three triangles issuing from it, filled with leafage; yet it does attempt to be something new, and a principle in nature has been, to a certain extent, successfully applied to stone. The group of flowers in the centre of the spandril represents what is termed, in botanical language, *an umbel*, as seen on the top.

An umbel is described by Dr. Lindley as "an inflorescence in which the flower expands centripetally and their stalks radiate from a common point," as in the flowers of the common Hemlock, Fool's Parsley, and many others. The whole group of flowers in the spandril is put in a circular, basin-shaped hollow, and all radiate, as in the natural umbel, from the centre. The flowers themselves are conventional, six of which, surrounding the central one, stand forward and are made convex in order to give bright, sparkling points of light; but the six intermediate flowers are formed with concave petals, and are recessed from the others and laid in the hollow of the basin, so as to produce a subdued ring of lights alternating with the brighter ones. The flower stalks are still further in shade, while the interstices are carried to the greatest depth practicable, to produce the utmost possible contrast with, and to heighten, the brightest lights. If the minute flowers, which constitute the umbel of the Hemlock, are closely examined, they will be found to have a very similar arrangement to those which are represented, but of course they are here simplified, and made more symmetrical. The intention is to produce a sparkling, jewel-like effect, simply by the aid of light and shade. The effect attempted is seen, in a group of Primroses by the hedge-side, when surrounded by its natural green setting: —

> "Here, thronged with primroses, the steep rock's breast
> Glittered at evening like a starry sky."

The leafage issuing from the centre group of flowers is arranged differently for all the angles, but not to such an extent as to destroy the symmetry of the whole composition. Their forms endeavour also to elucidate a principle in nature, rather than to follow any particular type. They would be described by botanists as *dentate* — that is, their lobes cut in a hollow scolloped manner, as shewn by the two natural leaves of the Plane tree and the Turkey Oak, represented in the upper part of the Plate. Dentate leaves are seen again in the Holly, the edible Chesnut, and some Thistles. The form is also common to some of the most beautiful examples of Greek foliage, as in the Tholus, from the monument of Lysicrates, and the Anthemion ornament, from the Erechtheum at Athens. It is a very elegant form of leaf, and serves as an agreeable change from the more rounded or angular lobed leaves. The leaves in the spandril are purposely kept comparatively flat, so as to act somewhat as a foil to the brighter light and shade in the centre.

The dentate or concave-lobed leaf, has been almost overlooked in the present-day rage for "sensation" architecture, and yet there is a quiet unobtrusive beauty about it that the Greeks were well able to appreciate, and of which they did not fail to take advantage. In the Perpendicular age of Gothic art this leaf was an especial favourite. Indeed, some of the best examples of that period are concave-lobed. But the form that the Greeks refined and purified, the sculptors of the fifteenth century allowed to run into handicraft, by which this delicate leaf form, merged into a "most questionable shape," in which the carver's gouge is painfully apparent.

The brackets or spandrils, given on Plates 27 and 28, are both intended to be surrounded by mouldings, although for convenience they are omitted in the Plate. As a general rule all carved ornamentation, placed upon a surface, should be carved out of, or within, the surface itself. There are exceptions: as, for instance, when extreme boldness is required, parts of the ornament may be advanced far beyond the line of surface. Still the ground from which it springs should be recessed or sunk; that is, the subject should be laid in a panel. It gives truthfulness to the work, and avoids that stuck-on appearance so commonly practised in modern furniture. The enrichment of plain surface in this way, whether it be by wall diapers, spandrils, panels, or other means, is by far the most legitimate mode of ornamentation, and is much superior to the modern French mode, which appears to be constantly looking out for projections upon which to place ornamentation. As upon pediments, cornices, keystones, and other parts projecting beyond the general surface of the work — not at all taken out of the surface, but added to it — they become parts stuck upon the structure. The ornamentation is placed outside, hanging frequently in festoons over the feature to be decorated, or resting upon it, instead of being formed within it, and becoming a portion of it.

The spandril with Hawthorn foliage, given on Plate 27, and which is intended to be applied to the side of a bracket, should then be executed within the surface. The scroll line is adopted with a straight branch issuing from it to form the lower portion. The berries and spines of the Hawthorn are introduced. The corresponding spandril for a bracket, Plate 28, consists of a conventional arrangement of the Maple, accompanied by its characteristic winged seeds. The foliage is kept purposely flat without any, or with very little, conventional moulding of the surface of the leaves, so as not to interfere with the flat surface of the bracket. The main lines adopt the scroll form, and the stems are angular.

A douple spandril is also given with the arch voussoirs, Plate 43, which will be found described with that Plate at page 76.

CHAPTER V.

PANELS.

PANELS in plain surfaces, both of stone and wood, form excellent points for introducing foliated or other sculpture. They are much of the same nature as spandrils, except that a spandril follows the lines of the architecture which bounds it; but a panel takes a form of its own, unless the surrounding lines are rectangular or otherwise perfectly regular. It therefore follows that with panels, much may be done by their being arranged of an agreeable external form. Plate 29 consists of an Oak branch, with Acorns arranged in a panel of a quatrefoil form and square corners, with an incised line surrounding it. The foliage, however, may be equally well applied to a boss for a ceiling, or any other position where a "*knot*" of foliage may be required. As a panel it should preserve a certain flatness, which is alone consistent with the nature and ornamentation of plain surfaces. Pugin has said, that "a panel, which by its very construction is flat, would be ornamented" by the old artists, "by leaves or flowers drawn out or extended so as to display their geometrical forms on a flat surface." The ornament, also, should be taken out of the surface, and no part should project beyond the face of the material, so that it may not have the bad effect of anything stuck on. The branch is here arranged (Plate 29) in a spiral form, a very old and a favourite arrangement among the Mediæval artists, and it may be thought also a purely conventional one; but I shall be able to shew by examples that it is a perfectly natural one. Below the panel are given two small branches of Oak, and, without intending to indicate that the panel was designed from them, it is meant to shew that the beautiful "*buddy*" nature of the sprigs have been to some extent taken advantage of. Any one examining a small branch of Oak attentively, will be struck with the beautiful development of the buds; but more especially in autumn, when the tree has been nearly bereft of its leaves — a provision of nature to store up the coming fruit, and future leaves and branches, previous to the approach of winter, that they may burst forth upon the return of spring. These examples are not selected with any great care, or as possessing features which are unusual; yet, I think no one can deny their beauty. The left-hand specimen I casually picked up as it was lying in my path while walking in the fields at Bangor last autumn; and the right-hand one is from near Barnstaple. This, however, possesses a slight peculiarity which I have not met before, in the scolloped form of the cup of the Acorn. I have introduced it in the carving, but perhaps

not very successfully. In the moulding of the surface of the cups, I have not quite followed nature, but have adopted the conventional rendering as found in the carving of the Percy Shrine, and back of the altar screen at Beverley Minster. The leaves are not so much the rounded lobes of the English Oak, as the more angular ones of the Turkey Oak, which has now become acclimatized to this country.

Plate 30 is an arrangement for a quatrefoil panel, introducing animal form with the foliage, which, when well applied, occasionally serves to break the monotony, which might be observed if all decorative carving were simply foliated. The animals should be blended and incorporated with the foliage, and not applied as if they were quite separate from it, or as if walking about among groves of trees. They should form a part of the composition, and assist in developing the leading lines. The natural type of the foliage used is the Dove's-foot Crane's-bill, but there are other leaves to which the foliage is also somewhat similar, as the *Canariensis* and Crowfoot, but it is not a literal copy of either.

To adapt nature successfully to art purposes it is absolutely necessary to study it intensely and constantly, and while it is in full vigor and life. It will not do to draw only the dead, inanimate form. Nature should be watched and examined at different times of the year, and viewed in different positions. Every part of a plant should be carefully drawn that strikes the eye as elegant, — the beautiful little leaf-buds as they unfold themselves, giving, as they do, some of the most elegant and energetic lines that can be conceived; the leaves, with their form and modelling, their mode of springing and clasping the stem; the construction of flowers; and then the seed vessels and fruit. Every part requires to be examined with attention, often with the aid of a powerful magnifying glass, and carefully drawn to form a store for future use in designing for ornamental art. For, as Sir Joshua Reynolds very justly says, "It is indisputably evident that a great part of every man's life must be employed in collecting materials for the exercise of genius. Invention, strictly speaking, is little more than a new combination of those images which have been previously gathered and deposited in the memory. Nothing can come of nothing; he who has laid up no materials can produce no combination."

In Plate 31 four examples are given, drawn from nature, shewing the cruciform arrangement as presented by plants and trees bearing opposite leaves. The Lilac, No. 1, as seen when looking upon the top of the branch, gives this cross-form in the greatest simplicity, with the two pairs of lower leaves coming intermediately with the upper ones. With a slight conventional rendering, this example would form a simple and effective boss or flower, suitable for being placed at a considerable height. No. 2 shews the same cross-form as seen in the tops of branches of the Sycamore. No. 3 is the point of a branch of the common Maple, as seen from the back; while No. 4 represents the front of the same. By thus drawing nature in different aspects and diligently searching

for form, we accustom ourselves to see, and really become able to detect, those portions of nature which are most applicable to art. The centre panel, Plate 31, which would also be equally well adapted for the purpose of a boss, is a conventionalized arrangement of the cross leaves of the common Maple, with the characteristic seeds introduced on the four sides. The cruciform was always a favorite arrangement, during the middle ages, for bosses or diapers. The Dogtooth ornament, so characteristic of the architecture of the thirteenth century, is another variation of this same arrangement of four leaves. Probably four simple leaves, such as the Laurel, as seen from the back, in a similar manner, as shewn by No. 3.

In Plate 32, which is designed to illustrate the parable of Our Lord, of the Wheat and Tares, as given in the 13th chapter of St. Matthew, the vesica form of panel appeared suited to the grouping of the foliage. To make the Tares, which are a species of Wild Vetch, subordinate to the Wheat, and yet to maintain the rigid character of the Wheat, was the main difficulty in the arrangement of the design. The flowing lines of the Tares, occupying as they do the largest portion of the surface, had to be contrasted with the straight and angular ones of the Wheat, without appearing to choke it by a deadly embrace, as in the previous parable of the unfruitful Wheat which fell among Thorns. In first designing the subject, the tendrils of the Vetch were introduced, but it was afterwards felt necessary to cut them out and to substitute the voluted fronds of the Maiden Hair Spleenwort and the Hard Fern. The seed of the Vetch is very elegant, not only in itself, but in the manner in which the pods cluster in radiated spirals. This has been conventionally rendered in the lower part of the design, and the seeds are indicated as seen in nature, when the ripened form of the seed betrays itself through the integument — as the wonderful drapery of the antique clothes a joint without concealing it. In all sprig-like ornament — that is, shewing the stems shooting from the bottom of the composition, as I have already noticed — there is always a difficulty to know how to connect them, and to treat the ends ornamentally. The idea of an evil spirit grasping and concealing the springing of the various lines here suggested itself, as at once overcoming the difficulty, and assisting to develope the meaning of the parable: — "The Tares are the children of the wicked one. The enemy that sowed them is the devil."

Lines in nature consist of the straight and the curved, and in composition we bring them into various combinations with each other, producing contrasted or harmonious forms as may be desired. Even with nature herself, when cultivated, we are fond of bringing the upright lines of the Poplar, or the horizontal lines of the Cedar, in contrast with the more harmonious and rounded forms of other trees. A line is in the greatest contrast with another when it is in direct opposition — as in a right angle. It is in the greatest harmony when it runs even with another — as in parallel lines. Curves may be used for contrast by opposition of form with the straight, or to produce gradation (that is, approaching harmony), by softening the harshness of the angle at its intersection by making the lines tangential. "The two principles of *contrast* and *gradation* are expres-

sive of opposite qualities — the first being grand, forcible, and exciting; the other elegant, gentle, and soothing." * Straight and angular lines give strength and vigour, while the curved give softness and elegance, as the main straight stem of the tree, which shoots forth its lateral branches, has the angles softened by the curve, or the straight lines are made more agreeable through being just tinged by the influence of the curve in their delicacy of flexure.

The straight line and angle are the type of the male element, while the curve is like the softening influence of the female. One is indicative of strength, while the other partakes of softness and grace. Without the introduction of both principles, design is liable to fall into tameness and insipidity. Each line in a composition must either harmonize or contrast with those to which it comes in proximity; at the same time, its effect must be observed in its general relation, for often what is suitable in part, will mar the entire composition when reviewed as a whole. It is not, however, necessary that the skeleton or elementary lines in a design should be everywhere equally apparent. On the contrary, they may, very judiciously, be lost and concealed occasionally, provided the connection of the several parts be not too much obscured.

In Plate 33, which is a composition for a panel of a similar form to the last, an experiment is made in the arrangement of curved with angular forms, giving a greater predominance than usual to the latter. The curved lines partake somewhat of the Classic lyre form, interlaced with angular branched forms as in nature. Horizontal lines are introduced, as being the greatest contrast which can be obtained with the upright ones of the central stem; but their harshness of junction is avoided by their falling into diagonal lines. The whole design is taken from nature, but without *copying* any particular type. It is conventionalized in an architectural manner. The general character of the foliage is that of the Ground Ivy, but the several parts are taken from various other sources. The bud at the top of the whole is from the Dogwood, with Ground Ivy leaf in profile on each side. The flower is simplified from the Coreopsis, with buds of the Lilac on each side. The spiral branches are from the Comfrey, with the flowers of the Bluebell. The angular branches terminate in Ivy buds, and the lower flowers are from the common Mallow. The angular curved branches, which develop the lower part of the lyre form, issue from sheathed leaves as in the grasses, and terminate in the leaf buds of the Rose, producing parallel lines to the central stem. There are also leaves from the Nasturtium and Geranium.

Plate 34 contains foliated panels applied to doors of cabinets, or other small works in woodwork. They consist of conventional arrangements of the national emblems — the Rose, the Shamrock, and the Thistle, with the Leek for Wales. The circular panels are formed from the Wood Sorrell or Oxalis, and the Creeping Crowfoot. They are in the same manner as the wall diapers, all carved within the surface.

* GARBETT'S *Principles of Design in Architecture.*

Plate 35 has two examples for foliated crosses, after the manner of Anglo-Norman Work. The natural type of the first is the Celandine, and of the second the *Adoxa Moschatellina*. There are also two small circular panels, the one at the top being taken from Wild Celery, and the lower one from *Arum Maculatum*.

The foliage of the Anglo-Norman period is remarkable for great vigour and expression. It frequently contains the most clever developments of elegant lines combined with great simplicity of light and shade. The happy manner, too, in which animal form is united to the foliated is very graceful. It is strange, however, that hitherto it has been the custom to consider the sculpture of this period, although acknowledged to possess some merit, to be, nevertheless, rude and barbarous. It is true that there are many of our Norman buildings which do not contain much sculpture beyond zigzags, beak-heads, billet mouldings, and cushion capitals; but there are parts in others which indicate a wonderful amount of art feeling, and will amply repay the most careful study. Among the Norman doorways, especially, there are sculptured portions remaining which evince the highest artistic spirit and power. These old artists appear to have expended more care and thought upon their doorways, than upon any other part of their building; and the Mediæval artists who followed them appear to have appreciated this fact, for there are several instances where the sculptured doorways have been preserved, and even taken down and most religiously re-erected in a new position, by the architects of the middle ages, while nearly every other vestige of Norman work has been swept away. They put their work in the right place, for what other feature in a church could have been selected more worthy of the highest artistic treatment, than its entrance doorway? What part is more appropriate for sacred sculpture than the tympanum of a noble doorway to a cathedral? Here all who come to worship or to pray cast their eyes as they pass through, and all who leave the building invariably turn round to examine those curiously wrought lessons in stone.

The sculpture of this period is not highly finished. The trace of the tool, used in the most decided manner, may still be seen in many examples, evidently shewing that the sculptor used it as the true artist would the brush — feeling only its value as a means of expressing his own mind, of creating those forms which he loved to picture forth, and not using it to give only smoothness and finish. We cannot help being struck, when looking at one of these works, that these men possessed a something — an artistic mind and hand — beyond what we possess at the present day. How is this? We have progressed in nearly everything, but in the true artistic feeling in architecture we appear to have retroceded. It is of no use blinking the matter, but such appears to be the truth.

The manner of treating the ground of their carved work shews in what spirit these old sculptors worked. It was not made smooth and all of one uniform depth, but as deep again in one part as it was in another, according to the intensity of shadow required, thus shewing that they valued it simply as a background to their picture. We too often

are only anxious to produce a neat and uniformly smooth and even ground, sometimes taking more trouble, and giving more thought to the ground, than the carving itself, forgetting that the use of the ground, is to produce shadow as a setting to the sculpture, in the same way that a dark background, is made to heighten the artistic effect of a painting. As a general rule, we are afraid of recessing the ground to our carving, not appreciating its value in developing the beauty of form, or of adding brilliancy to certain parts by intense shadow. Instead of seeking for the light and shade upon the surface of the carving itself, as is too commonly the case, the ground should be driven back, without the slightest compunction until the necessary contrast is obtained. If it be desirable to produce contrast of surface and difference in tone or colour between the ground and the carved work, without deeply recessing, the ground should be left rough, dotted, tooled, cross-tooled, or even diapered, remembering only that it is subordinate to the carving, and treat it simply as a means of developing it.

It may probably be supposed that this is rather a trifling subject, and as long as the carving is good it matters little about the treatment of the ground. This is, however, a mistake, for a very great deal depends upon a proper use of the ground. Without contrast form cannot be developed, and this is another reason why ornament upon grounds should be laid in panels, for by recessing for the panel we gain contrast by shadow. In carved features which have no ground — such as shew their forms immediately upon the sky — the form is strongly developed by light, the dark solid substance comes against the light sky. But where carving is laid upon a ground, the ground becomes darker than the carving itself, and the form must be shewn by its being surrounded by shadow. Therefore if it is to be developed with precision and clearness, the shadow must be occasionally augmented by deepening or other treatment of the ground. In Plate 35, the centre portions of the crosses have an increased depth of ground, in order to make the centre stand out in brighter relief, while the outer portions of the crosses are less marked, softening into those parts which lie in the hollows of the quatrefoils. In the small panels the grounds are made concave to give a contrast to the convex form of the ornaments.

CHAPTER VI.

Bosses, or Centre Flowers.

FLOWERS which radiate from a centre are arranged upon the triangle, the square, the pentagon, &c. The common White Lily is formed upon the triangle, the Wallflower upon the cross; but the cross form is seen better in plants and trees with opposite leaves, as seen when looking down upon the end of the branch. No. 1, Plate 36, is a treatment of the Hawthorn in this manner. No. 2 has been suggested by the Crowfoot, when growing on the ground in a radiated form, with its bud in the centre, before it throws up its flower stem. The common Daisy and Sow Thistle have the same habit, looking at times like perfect stars on the ground. The Sea Holly has a flower, with an involucre of six leaves accompanying it, forming a perfect natural rosette of six points.* An attempt has here been made (No. 4) to conventionalize this rather unmanageable child of nature. The leaves are most lovely, reminding one of some of the ironwork of the Middle Ages. The centre is from a Dahlia flower bud, as the flower of the Sea Holly was unsuitable. No. 5 is formed with the buds of the Ground Ivy, slightly conventionalized from Fig. 102, which is an enlarged representation of the bud from nature. They are arranged crosswise, the effect of which was to leave four triangular hollows in the margin of the flower. A ball form seemed most happily adapted to the space, which suggested the use of the Ivy bud, which is given enlarged from nature, in Fig. 103, thus obtaining a second principle of design by dividing the Ground Ivy in the line of radiation, and making the Ivy bud also a centre, with the appearance of a leaflet on either side. No. 3, the centre flower, is an adaptation from the Violet. Here nature is approached very closely in the leafage, but the flower is conventionalized, and made to assume the form of a leaf.

Fig. 102.

Fig. 103.

Perhaps no ornamental arrangement has been more universally adopted, in all ages and in all styles of architecture, than the flower, under the various technical terms of Rose, Patera, or Boss. It consists of the disposition of forms, at once purely geometrical and eminently natural — generally a repetition of one or more individual parts

* *See* Plate 70, Part III.

radiating to one common centre, as in natural flowers, presenting to the eye an ever-changing position of the primary object acted upon, and conveying to the mind a complete whole, on which it can pleasingly dwell, without feeling as if it were a mere repetition of the same form.

The centre flower given on Plate 27, and which fills a six-pointed panel, has the leaves of the *Adoxa Moschatellina* arranged upon a conventional treatment of the common White Lily.

The boss, or centre flower, Plate 28, is formed by three leaves of the Ground Ivy, having buds lying in their hollows. The leaves alternate with thorn points upon the principle of a three-petalled flower, but interlace in a conventional manner in the centre. This arranging of leaves like flowers, is in accordance with true art, and new combinations may be elicited by carefully observing and studying the formation of various flowers.

The cruciform arrangement of leaves was used at an early period of Mediæval architecture, in square diaper work, and from the convenient form it assumed, the square flower, as it is technically called, remained a favourite to the latest period of Mediæval art. Its type in nature is most clearly seen in plants and trees bearing opposite leaves, when looking upon the extremity of the branch, as already pointed out, and also illustrated by natural examples on Plate 31. The square form of flower naturally suits a great variety of positions, where other forms would be much less appropriate. In the panelling of the fifteenth century, it so well agreed with the leading geometrical lines of the tracery, that it was almost universally adopted, to the exclusion of every other form. At the same time it became so stiff and conventional, that there was a great sameness and a strong family likeness, running through the whole of the square roses of this date, as may be seen in the panelling of Henry the Seventh's Chapel at Westminster, and King's College Chapel, at Cambridge. Nothing can be more simple than four leaves in a square issuing from a bud or flower in the centre. Yet it admits of far greater variety than would be at first sight imagined, without falling into that similarity which is observed in the square flowers of the Perpendicular period.

On Plate 37, four examples are given, which are adapted for being used in diapers for walling, or as separate flowers or bosses for hollows in cornices, or other positions. The arrangement of three of them is simply the common arrangement of four leaves issuing diagonally from the centre; still, by the variation in the form of the leaves and centre, a fresh and new variety of form and effect is attained. No. 1 consists of four leaves of the Hepatica, issuing from a circular stem, and a young leaf, thrown out irregularly, forms the centre. No. 2 is formed upon the dwarf Mallow. The centre consists of the seed — the "cheeses" of the children — the divisions being reduced from five to four in accordance with the cruciform arrangement. From the seed spring eight folded or half leaves, forming a cross, the diagonal spaces being filled in with four of

the flowers of the Mallow in profile. This design, although purely natural, has a character remarkably like some Norman foliage. It assumed this resemblance without any effort to make it do so. No. 4 is taken from the minute flower of the common Rue, slightly altered from nature. This curious little flower, when minutely examined, is found to be strictly cruciform, with four curiously shaped greenish yellow petals, each enclosing in its folds a stamen, surrounding the seed vessel in the centre of the flower, which is also divided crosswise, as shewn in the design. The whole of this homely plant is a perfect study. One of the petals, when taken off and viewed sideways, has a remarkable resemblance to the ordinary Gothic crocket. The leaf buds, when first opening are most elegant, containing lines of the utmost gracefulness, although they are so minute that they require to be examined with a powerful glass. The leaves when fully expanded are of beautiful form, but the seed vessels are most curious, and assume several highly suggestive forms while ripening, all upon the principle of the quatrefoil.* No. 5 is formed of four leaves of the Creeping Crowfoot, not taken from the leaves when fully developed, but whilst young and they first expand, when they consist of three simple triple lobes. (*See* Natural Examples given on Plate 23.) The centre is formed by five berries or seeds, having a calyx of four triple divisions.

The centre example, on Plate 37, is a conventional treatment of the Passion Flower, arranged as an emblem of the Passion of Our Lord, intended for a panel in an altar, or other appropriate position. The cruciform arrangement is retained throughout. The stamens are reduced from five as in nature, to four, forming with the pistil, a cross in the centre. The corolla of the flower also, carrying out the same cruciform principle, is reduced from ten divisions to eight.

Bosses are used for various purposes, but the most important is that of receiving the ribs of groining at their intersection. Ribs were, however, used in the construction of early Mediæval groins without the addition of bosses, for at first there were no keystones at the intersection of the ribs, and bosses are simply the ornamental terminations of the keystones. Professor Willis states that "in the Early Norman examples, one pair of the diagonal ribs was first erected as a complete arch, and the other pair of ribs set up separately, and made to abut against the first arch, meeting either a voussoir or a joint, as the case may be." But as soon as the construction of groined ceilings became more advanced, and keystones were found to be necessary, bosses were soon introduced as a natural and graceful appendage to them. In the first instance they appeared in the form of simple roses, or of interlacing figures of the cross form; and occasionally they consisted of rude heads. Towards the end of the twelfth century, or the beginning of the thirteenth, however, they became developed into the most beautiful designs both in foliage and sculpture. In their contour, bosses usually assumed a circular form embracing the mitres of the ribs. Occasionally the ribs, at their intersection, were worked into a circle, which was moulded the same as the ribs, and the boss was sculptured upon the

* *See* Plates of Natural Examples, Part III.

circular face underneath. This form of boss has been adopted in the designs given at Plate 38. In the first example, seven leaves of the Columbine are arranged revolving upon each other after the manner of the flower of the Hollyhock. They are highly convex in their modelling, coming out from the centre in a trumpet-like form. The second row of leafage revolves the contrary way, and is only partially expanded. The centre is formed by a conventional representation of the stamens, and surrounds the eye of the boss. The centres of both bosses, as is frequently the case in old examples, are pierced for the purpose of suspending chandeliers or scaffolding, or, it may be, to aid the ventilation of the building. In any case the perforation would be useful, and, in the composition of the flower, it assists by producing an intensely dark centre. The second example (Plate 38) has a central flower or corolla of Ivy leaves of a globular form, but depressed in the centre; from behind the corolla, issue in the form of its calyx, four *crochets*, each composed of two Ivy buds, crossing and twisting round upon each other. Immediately with them, as a second division of the calyx, issue four other minor *crochets*, with leaves to conceal the junctions of the larger ones.

Bosses were sometimes added to stone-groined ceilings, carved in wood. M. Viollet-le-Duc, in his *Dictionnaire Raisonné de l'Architecture,* mentions that "it often happened that, either during construction the sculptors had not time to carve the bosses before they were set, or that the projection of the sculpture inconvenienced the setters in resting the boss upon the centering; they therefore left the keystones plain and smooth at the bottom, to which they afterwards hooked roses (or bosses) carved in wood. The greater part of the keystones of the vaulting in the lower chapel of Ste. Chapelle at Paris, are decorated in this manner." The date of this work is about 1240. Probably, also, the bosses were painted and gilded before they were put up, which might have been another reason for applying them afterwards. This is a practice, however, which must be condemned, although, if bosses are to be covered up by painting and gilding, they might as well be in wood, or any other material, as stone; but, as I have already endeavoured to point out, foliage should *never* be gilded. It should be left of the natural colour of the material in which it is formed. Although gilding gives a richness of effect, yet, from its reflecting surface, it destroys all the light and shade of the carving, and gives a false effect which was never intended by the sculptor.

In later Mediæval work, even stone bosses were hung up by irons passing through the perforations in the keystones of the vaulting. They were then, however, so large that they could not possibly form a part of the keystone itself, but had to be attached underneath. They mostly consist of star-like and other forms, extended beyond the usual limits of a boss. Many of the heraldic achievements which are seen as bosses, in late groining, were executed in wood, applied or hung up to the ceiling after being emblazoned in all their colours and gilding complete.

CHAPTER VII.

String-courses, Friezes, and Cornices.

CONTINUOUS ornament, such as string-courses, cornices, and other similar features, may be arranged in a simple, effective and natural manner by branching from a straight stem as shewn by the four first examples on Plate 39. The first has the leaves growing alternately, as in the Oak, Thorn, and the greater number of trees, and is formed with the trilobed leaf of the Hepatica. The second has the leaves opposite or in pairs, one on each side of the stem, and is formed upon the common Maple, which has its leaves growing in this manner. The third has the leaves upright from the stem, with fruit alternately, and is an adaptation from the Honeysuckle. The natural leaves and fruit of the Honeysuckle are shewn on Plate 21. The fourth example on Plate 39, is formed with the leaf of the Tulip tree, and is very applicable to its situation, from its having a square split point, which harmonizes with the straight line upon which it abuts. Other variations of continuous ornaments by simple leaves may be made by placing them diagonally, as, for instance, by taking the upper or lower half of the example No. 2. The fifth example is arranged in zig-zag, with young Fern (common Brake) just expanding. The spiral buds are intended to be made more prominent than the other parts, so as to give a succession of brilliant high lights, while the other portions are kept subdued. The sixth example, with the stem assuming the wavy line, has the leaves of the common Bind-weed arranged in zig-zag.

The first example given on Plate 40 is an application from the celery-leaved Crowfoot, introducing the buds of the Ivy. The leading line upon which it is formed is a variation upon the old stereotype scroll-line, by a species of interlacing or branching of the scrolls, as shewn by the small diagram, Fig. 104; instead of their flowing from each other in the old manner, as Fig. 105. This mode of branching, that is, by a curve

Fig. 104.

Fig. 105.

which is directly opposite to the tangential, is seen in the Lombardy poplar, and often in the lower branches of many trees. The second example is an arrangement for a

string-course, or other continuous ornament, of rose leaves, embracing a stem upon the zig-zag line in the Mediæval manner. In the third and fourth examples the zig-zag line is again adopted. No. 3 is a conventional rendering of the common Avens, and No. 4 an adaptation from the Thistle, with a central stem and Ivy buds. No. 5 is formed with the expanded leaf of the Ivy, arranged diagonally, accompanied by its globular bud; the leaf being hollowed, as in nature, and the ground made convex, as an opposing form to the concave leaf.

A very simple method in designing is to take up one from several plants, as may strike you, and, whilst looking at it steadily, thoughtfully, and lovingly, ask yourself to what particular ornament it will best adapt itself; then, putting aside your natural foliage, commence your ornament. But it may be, before you have gone far, you are at a loss to know how to proceed. Now you will have recourse to other plants, but still keeping your first in your "mind's eye." Thus, by continually applying for advice to your little monitors, and by attentively looking into and understanding natural forms and principles, you will undoubtedly find that inspiration and originality of which you were in search. You proceed, not by rendering literally that which you see before you, nor by adopting the idealism of others, but thinking only of your own work as a creation by the aid of nature, looking only to your material which is to become moulded by your hands, steadily aiming at the utmost elegance of form, and beauty of light and shade.

A happy word was that of old, "a cunning workman." It speaks of a man who wrought, as it were, unconsciously, seemingly to a casual observer, without effort; whose labours appeared to flow directly from his soul to the material under his hands. How such a man contrasts with the generality of the so-called carvers and decorators of the present day — hands which have gone on repeating the dead forms of some conventional style, until their heads and their hearts are no longer required in the labour, and they sink into mere machines! Yet the productions of these "hands" are expected to form "works of art," and we are supposed to feel a pleasure in looking at them. The "cunning workman" is still with us little more than a shade of the past.

In the antique Roman scrolled friezes, of which there are many fine examples remaining of most elaborate character, the scroll invariably issues from, and is formed by, sheaths of foliage growing out of each other, with flowers usually forming the centres or eyes of the scrolls. The starting-point of the sheath from the stem was indicated by a bulbous knot or joint, which was often enriched by a fringe of foliage, something like a flower turned back upon the stem. This antique manner became much modified during the Romanesque and Byzantine periods, until at length the sheaths and knots were omitted altogether, and in all the numerous ramifications of Mediæval scroll-work, no appearance of them is found whatever. With the Renaissance came again the sheathed foliage, when it became still further elaborated. In France, during the reign of Louis Seize, the sheath was carried to such an extent, more especially, in the fanciful

and elegant works of Salembier, the most celebrated artist of the period, that it often enveloped the whole scroll. The scrolls were sometimes made of an oval form, and the terminations of the foliage of the sheaths, inclined inwards towards the stem, the stem itself being reduced to a mere line. The eyes of the scrolls were formed by oval flowers, and occasionally the scrolls continued again from their centres, instead of by continuous branching.

With the entire omission of the sheathed foliage in Mediæval work, although not missed in small examples, came a baldness at the points of junction of the leaves and stems. This was ingeniously got over in many Gothic examples, by the continual crossing and interlacing of the foliage, or by a greater exuberance and breadth of the leaves themselves, which partially concealed the scroll. Where the beauty of the scroll, however, is sought to be developed, there is a want of something at the intersections. Instead of using the old sheath, this want may be successfully supplied in a perfectly natural manner by the *stipule*, and it has the advantage of being quite unworked for ornamental purposes. This stipule consists of two elegant leafy appendages at the point of junction between the leaf-stalk and stem, one on each side, as seen in the Hawthorn,* the Rose, the Vetch, and several other plants. To both the present examples (Plate 41) I have applied the stipule, and although each pair could not, except in one or two of the junctions, be indicated in the drawing, they could easily be sufficiently developed in the carving.

The first frieze is designed from the *Adoxa Moschatellina*, with the simple stipules of the Vetch. The stems are square, but the younger or smaller ones are rounded at the angles. The second frieze, formed with interlacing scrolls, is conventionalized from the leaf of the Flowering Currant, although its form is not followed literally. The stipules are from those of the Hawthorn, and the stems are angular. The modelling of the leaves is hollow, passing into a convex form in some of the lobes, the veining of the leaves being omitted to gain softness and gradation of light and shade.

The Gothic sculptors of the Decorated period, too often adopted the rounded bulb in the centres of their leaves, which was repeated in each of the lobes, and, when the leaf was much divided, repeated again in the sub-lobes, until the leaves were literally covered with circular knobs and hollows, which gave them an appearance which some natural leaves assume when in a state of disease, caused by insects upon their under sides. The modelling of the leaves also was much too violent and sudden, giving such an amount of sharp light and shade, as to entirely destroy the beauty of their outlines. In nature the surface of the leaves is generally very simple, their upper sides being usually hollowed towards the leaf-stalk. In sculpture, also, the modelling on the surface of the leaves should never be too sudden, if the ground is intended to be the darkest, for, however much their forms may be studied, if the light and shade be too

* *See* Plates 22 and 61, and Part III.

great, the form will be lost, as the shadows become as strong and broad as those upon the ground. It cannot be too distinctly stated, and I have before endeavoured to point out its importance, that the ground requires as much consideration as the foliage itself, and much of the art of the carver should consist in causing them to unite harmoniously together. If it be intended to form a dark background to the work, the ground should be made to do its duty by deeply recessing, by being contracted in extent, or by strongly marked *roughing*, so as to produce tone and colour to throw up the carving in sufficient relief. A neat, smooth, uniform ground is an absurdity when it is to be dark, for unevenness is an assistance, as it helps to produce shadow.

If, on the contrary, the ground is to be a light one, the surface cannot be too even, and the carving cannot be in too low relief. Any breadth of shadow which would interfere with the outline of the object should be avoided, and all light and shade be produced upon the thing itself. The Assyrian bas-reliefs are masterpieces in the use of the light background. No good carving can ever be produced where it is upon a ground, unless the importance and use of that ground is properly appreciated. Simple as this may appear, it is lamentable to see how little this fact is understood in the present day.

The enrichment in a Gothic cornice is, as usual with Mediæval work, placed in a deep hollow, which is sometimes joined by a continuous curve to the bead at the bottom. The same form of enrichment is often used for string-courses, as well as for cornices. In fact, the two features are frequently perfectly analogous, but that only is called a cornice which is the principal member in the parapet of a building. It is usually somewhat larger, and has a greater projection than a string-course. The enrichments in cornices and string-courses are of two kinds — *interrupted*, consisting of heads, roses, or bosses, placed at intervals, such as those given on Plate 37, Figs. 1, 2, 4, 5; or, *continuous*, examples of which are given on Plates 39 and 40. Two others are given in the present Plate (Plate 42), of a more important character than those before given. The interrupted form appears to have originated with the block cornice or corbel table, while the continuous sprung from the dog-tooth moulding. With the continuous enrichment, also, there are two distinct arrangements — the *horizontal* and the *vertical*. In English Mediæval buildings the horizontal arrangement is by far the most prevalent, while, on the Continent, the vertical is the most common — that is, the ornament springs from the bottom of the moulding, as from the necking of a capital, and is not connected by a horizontal stem. The form in which the vertical arrangement is most clearly seen is in the Early French *crochet* cornice, and which is evidently of Classic origin. It is, in reality, the leafage of the Corinthian type of capital, applied to a continuous moulding. The application was first made by the Romans, who enriched the cymatium of their temples, with the Acanthus leaves of the Corinthian capital, alternated with water leaves. In the Venetian and Italian Gothic, the Classic form of leaf was used in cornices, with the head very boldly turned over; but the true *crochet* is found only in the Early French,

where it was applied to capitals, cornices, and many other features. In England it was never fully developed, which would appear to be in consequence of the abandonment of the square abacus of our capitals, when, for the want of the necessary projection at the angles, the *crochet* came to be applied sideways, and flowing round the bell. Probably this at length gave rise to the horizontal foliage in the capitals of the Decorated period.

It is difficult to obtain breadth in composition, unless we first base our efforts on simplicity of form, and that form be repeated in regular geometrical sequence. The extreme simplicity of the *crochet* in its first "boasted" outline, and the agreeable arrangement of its light and shade, when that form is repeated, render it a very desirable feature for elevated situations, where the elements only of its ornamentation require to be made manifest.

Plate 42 gives two examples of a modified arrangement of the Early French *crochet* cornice — intended to be applied at a moderate elevation. The upper example has the principal range of *crochets* placed sideways; somewhat in the English manner. The lower leaves meet and form a row of subordinate *crochets*, alternating with the upper. They consist of the tender shoots of the young Brake lapping over each other, and Geranium leaves filling the lower central spaces. The upper range is filled in with the lapping, crescent-formed fronds of the Moonwort, which spring from the base of the moulding. The head is shaped with the opening spirals of the Maiden-hair Spleenwort.

In the second example, the elegant foliage of the Columbine is moulded into a *crochet*, with two half leaves meeting each other, and filled in below with the upper portion of the leaf of the Yellow-horned Poppy. The Poppy leaf, springing from the bead, advances in an ogee form to meet the half leaves of the Columbine, and with them to give a broad mass of light alternating with the still more prominent head of the *crochet*. Although both cornices have been conventionalized strictly from nature, yet the lower one has certainly the more natural appearance of the two. If the living plants are examined the cause will be evident. Both the Columbine and the Yellow-horned Poppy have highly ornamental foliage, and, to retain their character, are not so easy to simplify or conventionalize as the half-expanded fronds of Ferns. A plant of the Yellow-horned Poppy, as seen in its flat, star-like form, growing among the coarse shingle of the sea beach, is one of the most charming foliated forms which is to be found in nature. It is of a most lovely grey-green colour, beautifully frosted with silver; and the moulding of the surface of the leaf is something exquisite, from the overlapping lobes next the central rib throwing themselves so prominently and boldly into light.* The difficulty in its application is to know how to simplify it without losing its natural beauty. As a study of plant-form, combined with the light and shade upon its surface, it is worthy of long and careful attention.

* *See* the Natural Example of the leaf given at Plate 69, Nos. 83, 87, 91.

CHAPTER VIII.

ARCH MOULDINGS.

HOW is it that so much positively bad ornament is perpetrated in nearly every branch of the decorative arts in this country? Wretched ornaments, containing vicious forms and bad lines, are copied over and over again, until our eyes are met by them at every turn. In architecture, in furniture, in metal work, in woven fabrics, and in nearly every other species of work where ornament is introduced, we constantly meet with an endless repetition of worthless forms and inelegant lines. But why should it be so? It arises simply from the want of a proper education of the eye — the study of what constitutes the beautiful in line and form. Thousands of persons know no difference between the most wretchedly vulgar foliage, carved upon the commonest piece of furniture, and the most refined example which can be found of the best period of Athenian art. They can see no distinction between them; they are to them both alike. "On trouve des hommes pour lesquels toutes les formes se confondent et qui ne peuvent distinguer ce qui est beau de ce qui est laid." * Yet it is a fact that all common people prefer the ornamental to the plain; and there is a taste even among the lowest, for anything which is carved or painted, no matter how vulgar it may be. The taste for ornament, therefore, appears to be natural, but it requires to be educated before it can distinguish the beautiful from the ugly. We hear of an ear for music, and an eye for colour, but never of an eye for form and beauty of line. General form may sometimes be studied to some extent; but not the beauty of line as applied to foliated ornamentation. There are certain examples of foliage in our various schools of design, which are repeated and multiplied by plaster casts, and which the pupils copy and re-copy year after year, producing an array of elaborately shadowed drawings of the same thing; and this process is supposed to educate their eye, and to instruct them in the beauty of line. It may learn them to copy accurately, but it does not teach them to discriminate and appreciate the elegance of form. There is no recognized system for instruction in the combination of line, so as to produce that æsthetic feeling for the beautiful, which is so necessary in the designing of every species of ornamentation. The consequence is, pupils come out of the schools with a jumble of forms in their heads, and, in some respects, are worse off than if they had received no education whatever. They are somewhat in the position of those persons who, going

* Monsieur DE CAUMONT'S *Abécédaire d'Archéologie.*

into a shop, have such a number of various patterns laid before them, that they end by choosing the worst of the whole. They have no system by which they can discriminate the good qualities of one from the other, and they become confused by the multiplicity of forms which they see around them.

It is only by severe study and analysis, and by comparing the forms in nature with those of art, that the eye is at length enabled to appreciate and detect that which is good in form; and no improvement will take place in the taste of the general public until this is taught in our schools of art. If, instead of confining our young men to a few selected copies from the antique, in the drawing of which they seem to vie with each other in the production of thin wiry outlines, they were given some surface to decorate, or some feature to ornament upon natural principles, it would call forth their own thoughts and energies. By which, under proper supervision to direct them, to commence with the most simple forms of composition, they would be gradually led to analyze the various lines which have been hitherto used in art, and by fresh reference to nature, to learn how to improve, alter, or adapt them to fresh compositions. By careful training thus, in actual design, without embarrassing them so much with neatness of drawing, or delicacy of shading, the eye would become educated in form, and at length arrive at the power of detecting that which is good, and separating it from that which is bad, a power which is far more valuable than any acquired skill of manipulation and finish in drawing. Perhaps there are few works which contain more real design, with less finish of execution, than many of our sculptured Norman doorways — as at Ely, Barfreston, Patrixbourne, and others. The carving, executed often in the flat, always tells that the artist put energy into the work he had to do, and that his whole vigour and power was thrown into it. Ages have passed away, but these stones still speak forth the devoted earnestness and power of feeling, shewn by these "cunning workmen" of old.

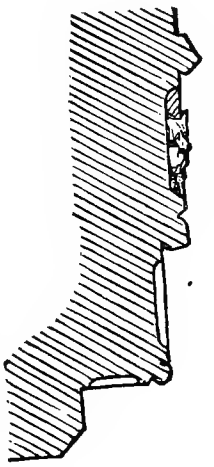
With an earnest endeavour to carry out the same spirit of ornamentation of flat surface, in the decoration by natural foliage, the spandrils and voussoirs for a small doorway are given on the accompanying Plate (Plate 43). The spandrils represent two winged nondescripts in violent action, the upper one having the wings expanded in a somewhat symmetrical manner, for the purpose of giving contrast to the freedom of line imperative upon animal form. The manner of the wings being taken from the well-known winged globe in the Egyptian temples. The tail of the animal terminates in a foliated spiral formed from the leaves of the Cardamine or Cuckoo flower — the "Lady-smocks all silver white" of Shakespeare — an elegant little four-petalled flower, with succulent stems, and brilliant green pinnate leaves, of exquisitely simple modelling and endless variety of form. The Watercress, and, in the central bud, the Wood Anemone, also lend a feeling to the foliage. The tail of the left-hand animal, is idealized from the pinnate leaves of the Vetch, when in its vigorous early growth, and its stems are thick and full of sap. A suggestion, also, is taken from the spirals of the Heliotrope, and the central or terminal bud is from the Rose. It is seldom that pinnate leaves — that is,

compound leaves formed of several leaflets in pairs — are attempted to be introduced in foliated composition.

The centre voussoir of the arch below the spandrils contains a nearly symmetrical arrangement from the Water Avens or *Herba Benedicta*, the favourite plant of the Early English sculptors. A fish and a vampire, occupy the stones on either side of the centre, with half foliated fins and tails, embracing an odd conventional thought or two. The right-hand stone is composed from the Celery-leaved Crowfoot, while the one to the extreme left is formed with the seeds of the Hornbeam, the characteristic plaited leaf of the tree being introduced to assist in giving individuality.

The parts are put together on the Plate, in order to economize space, without mouldings, but the accompanying woodcut (Fig. 106) gives a section, shewing how the parts would be arranged in execution. The spandrils would be carved on the wall surface with a horizontal moulded string-course above. The voussoirs would be recessed from the spandrils, and separated by a bold filleted bead. The soffit of the voussoirs would be again enriched by a simple carved diaper pattern, and a plain inner arch would complete the doorway.

Fig. 106.



As already explained in reference to Gothic enriched mouldings generally, enrichments in arches are placed in deep hollows, and usually project considerably from them. They also occasionally partially cover the adjacent mouldings, and spring out of them, as shown by the examples given on Plate 44. Those enrichments which occur at intervals in the hollows, as with the ball flower for example; or the *crochets* in the archway of the large double doorway leading to the Chapter-house in the cloisters of Westminster Abbey; or, again, the boldly-projecting *crochets* in deep hollows as seen in the presbytery of Lincoln Cathedral, are generally the most elegant, and by far the most effective. Ornaments occurring at intervals give points of bright light and deep shadow alternately, which serve effectually to break up the otherwise too monotonous repetition of continuous rounds and hollows.

In the first example (Plate 44) the enrichment consists of a double *crochet* form, somewhat after the Lincoln manner, springing from and growing out of the circular mouldings on each side of a bold hollow, and are conventionalized from the half-expanded and opening fronds of the Brake Fern. The ground or back of the hollow is filled with subordinate, continuous foliage, designed from the Polypody. This is kept flat and subdued, recessed in the hollow, to add richness, but not so as to interfere with the bright light and shade of the principal forms. The wave stem is often added to the "ball flower" much in the same manner, and for the same purpose, that of gaining increased expression and richness of effect. The whole of this example would require to be developed

and executed at a considerable scale. It would be suited, for instance, to form a portion of the arch mouldings to a grand double doorway.

The second example is a much smaller enrichment, but of a somewhat similar character, springing from a round moulding on one side of a hollow. It is a conventional rendering of the compound leaf of the Saintfoin or Holy Hay, which has a number of heart-shaped leaflets in pairs, and the head or extremity of which curls over in a very pleasing manner. The junction of the foliage with the moulding from which it grows, is concealed by pairs of stipules, taken from the Hawthorn, and these serve to give a rich, continuous effect and clothing to the moulding. The space left by the foliage at the bottom, or springing of the arch, is quaintly filled in with an owl, a position which was constantly filled, in Early Mediæval examples, with birds or grotesque animal forms.

The flowing of enrichments from or out of the mouldings, was purely an Early Mediæval feature. In Roman triumphal arches, which are about the first examples where arches were ornamented, the enrichments consisted of merely those of an ordinary architrave, and the soffits were enriched by deeply-recessed panels or coffers. With the Romanesque and Norman, the arch was formed by two or three orders of mouldings, recessed one within the other, and became a feature of great dignity and importance; still all the enrichments, such as zig-zags and beak-head mouldings radiated with the arch, in the same manner as the smaller mouldings of the Roman period. It was not until quite late in the Norman, and when foliage more or less superseded the zig-zag, that the ornamentation flowed round the arch. It is true that during the next period the dog-tooth moulding retained the former manner, and always had a charmingly quiet yet sparkling effect, which was due to its simple prismatic form; but when foliage was introduced, it either grew out of the mouldings in a tangential manner, or was arranged in a scroll form flowing with them. During the Decorated period, enrichments in arches became more distinctly *interrupted*, as already instanced by the ball flower. In Perpendicular or Late Gothic, the conventional square rose was most frequently used when arches were enriched; but they were often at this period left plain. The square roses were placed at intervals, often of great size, in large oval hollows, but had little or no connection whatever with the mouldings themselves. These enrichments, therefore, cannot be considered so elegant and perfect as those which belonged to the earlier period of Gothic art, when they were so skilfully blended with, and made to flow so harmoniously from the lines of the plain mouldings of the arches.

CHAPTER IX.

Enriched Mouldings.

CLASSIC enriched mouldings consist of surfaces sculptured, but at the same time preserving more or less the contour of the plain moulding, which is of a certain conventional form; while in Gothic the enrichment is contained in the moulding, and it usually takes an opposite outline, nearly always consisting of an ornament of a convex form put in a hollow moulding. The Gothic is placed so that the light must fall upon it, while the Classic is as continually receding from the light. The origin is evident: the Classic has been arranged for those countries where the natural contrast of light and shade is most intense; but the Gothic has been designed for those more Northern climates, where the light and shade have to be made the most of, and buildings were meant to look effective even in dull and cloudy weather. The ornament, therefore, was thrown boldly into the light, and the shadows were made as intense as possible, by forming the moulding into a hollow, the opposite form to the enrichment it contained. In strings and cornices, the foliage usually projects as much as the member above it, but in Classic the enrichment is invariably crowned by an overhanging fillet. Gothic enriched mouldings are more often formed by continuous lines in the direction of the moulding, as shewn by most of the examples given in Plates 39 and 40, while Classic ones are generally the reverse, being arranged transversely by adding one form by the side of another. It is evident that the latter is more suited for Classical purposes than continuous form would be, from the necessity, there usually is, of making such frequent mitres in the enrichments, and for doing which, the transverse form gives greater facilities.

The incised bead and the large hollow moulding, filled with the winged globe and hieroglyphical figures, so usual as the crowning members of the Egyptian temples, may be looked upon as the origin of Classic enriched mouldings, the principle of which was to enrich a moulded surface by carving the forms out of it. There were some variations of the Classic manner in Roman architecture, in which some parts of the enrichments were scooped or hollowed out for the purpose of obtaining deeper shadow; but they are not sufficient to affect the general principle, which was retained in Italy, more or less, during the whole of the Mediæval period. In Italian Mediæval architecture there was also a greater use made of horizontal mouldings. As an instance may be cited Lucca Cathedral, where the carved quarter round and fillet in the strings, are evidently remnants

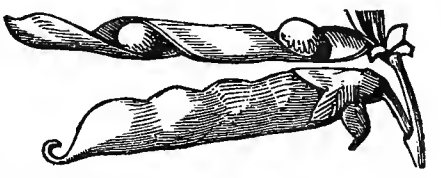
of the Classic ovolo and fillet. In Early Norman and Byzantine work, again, the Classic principle is still seen. Indeed, many of the mouldings of those periods were almost identical with the Classic. It is rather remarkable that the Egyptian incised bead is very much after the fashion of a Norman zig-zag or saw-tooth moulding, and might easily pass as a Norman string-course. In English and French, or Northern Gothic architecture, however, no trace of the Classic moulding was ever to be found.

Why I refer so particularly to this peculiarity between Classic and Gothic enriched mouldings, is that in any successful modern adaptation of architecture for domestic purposes, the horizontal line must necessarily enter very largely into composition, and no enrichments are so suited to horizontal lines as those that are upon the Classic principle; but I would take advantage of the Gothic manner of deeply hollowing the ground, for the purpose of gaining more shadow. In this country, where light and shade are so subdued by clouds or a dull atmosphere, often for as much as three parts of the year, or, as in large cities, enrichments become choked up with soot and dirt, the Gothic manner of hollowing the ground must necessarily be very desirable. The Romans appeared to have felt the same thing — that is, an increased boldness of light and shade — and, if it was necessary in Rome, how much more so must it be in our own climate? With this idea the mouldings given on Plates 45 and 46 have been arranged, by introducing new forms from nature, and rendering them in a bold but simple manner. I have found the whole of the mouldings here given to work in most successfully and harmoniously with some of the purest forms of Italian architecture; and there can be no reason why many others, from our beautiful leaf forms, should not also be equally well adapted, instead of so constantly recurring to those stereotype forms which are in such every-day use.

The number and the variety of enrichments at present used for Classical mouldings are very limited, so much so, that, undoubtedly beautiful as they are, we have of late years been perfectly inundated with "Eggs and tongues," "Beads and buttons," and enriched "ogees," modelled strictly from the Greek examples, until we have become completely nauseated by them. There has not been much attempt at gaining variety, or of inventing new forms. Classical architects, in their detail at any rate, have been content to reproduce such forms as they have found at their hands. There is, however, no reason why the old stock patterns should not be broken through and fresh forms introduced. The examples given are probably not perfect, but all are arranged upon natural forms, although they do not follow closely any particular natural type. The split-leaved ones (Nos. 4, 5, 6), Plate 45, and No. 1, Plate 46, have been suggested by the point of the leaf of the Tulip tree. In No. 3, Plate 45, and Nos. 5, 8, and 9, Plate 46, the ground is hollowed, after the Gothic manner, in order to get a greater degree of light and shade, and the berries of No. 3 are made to project beyond the line of moulding, so as to produce points of high bright light at intervals. The forms of the leaves are kept flat simply following the contour of the moulding. The two last examples, Plate 45,

may be considered as adaptations from the conventional "Egg and tongue" moulding, but partaking also of the character of the Gothic ball flower ornament. The first of them, is a leaf and globular bud, like the flower bud of the Peony. The last is a ball and trefoil, the ball being highly relieved by forming a hollow round it sunk out of the ground. The ball as an ornament is alike common to the Gothic as to the Classic, and probably has been equally suggested by objects in nature. In the pods of the Sweet Pea and the Vetches, which when dried, curl up as shewn by the small cut (Fig. 107), retaining the Peas in the intervals of the twist, we see very clearly the type of the bead and twisted ribbon of the Classic or Renaissance period — while the "Decorated" ball flower has been probably suggested by the bursting seeds or nuts of the Horse Chesnut. Here, again, we see the difference between Gothic and Classic light and shade, for while the "eggs" and "beads" of the Classic are closely surrounded with lines and delicate shadows, the "ball flower" is imbedded in shade produced by a deep hollow, so as to make the light upon the ball as intense as possible.

Fig. 67.



No. 2 (Plate 46) is for an ovolo or quarter round, moulded upon the surface, which, from the greater number of lines and less depth of shadow, would require to be used nearer the eye than the last. It is formed with young Hawthorn leaves, which, when they are first developed, have but three lobes. No. 3, for an ovolo, is arranged with natural boldly-serrated leaves, alternated with Thorn berries. No. 4 is for a small cavetto, with a half-trefoil leaf set out upon alternating quarter circles. No. 6, for a large cyma reversa, is formed with a three-pointed leaf, alternated with a five-lobed leaf, with a very slight moulding of the surface. The ground should be hollowed and sunk to a good depth, in order to well develope the form of the leaves. No. 7, for a cyma recta, is an arrangement of the simple leaves of the London Pride. The leaves are in the flat, retaining the profile of the moulding, and are developed entirely by the recessed ground. No. 8 is for a cyma recta and bead, the leaf, which is from the Cow Parsnip, sweeping from the bead continuously to the top of the member. No. 9 is an arrangement of a trefoil and fluted bud, somewhat after the manner of the Classic wave moulding. It is suited for a flat surface, the ground being worked into a deep hollow.

CHAPTER X.

CAPITALS.

CAPITALS of columns are among the most important and distinguishing features in architecture, and admit of considerable variety in arrangement. In all the temples and other works of ancient art which have passed down to us, the capitals of the columns, in most instances, evince much thought and study. It is evident that they were considered by these ancient artists to be among those parts of their works which deserve their greatest attention; accordingly we find many examples of a totally distinct character, possessing great elegance and beauty. Perhaps, however, the most beautiful of the antique capitals is the Corinthian, and it undoubtedly became the type of many of the Mediæval capitals. It was not copied by them literally, as we are in the habit of servilely copying it now; yet, in many of the early foliated capitals, the origin from the Corinthian can be clearly seen. The Greeks never perfected the Corinthian capital; that is, as far as we can tell by what has been left to us, the only pure Greek example that we have, being the small one from the monument of Lysicrates. But beautiful as it unquestionably is, it is far from perfect. There is an awkward deficiency or nakedness between the heads of the leaves and the scrolls at the angles; but, such as it is, it has been literally copied and executed by us in every possible way, and put in every kind of position. The whole monument has been placed on the top of a church to do duty as a tower, and now it has been degraded to a cast-iron drinking fountain; but whether the capital has been placed close to the eye, or put at a considerable elevation, it has been invariably copied precisely in the same manner. The delicate chiselling of the leaves, which no doubt was admirably suited, in the original, to the material and to the distance it was placed from the eye, has been imitated, and every minute detail copied without reference to its position; so that it often appears to us, nothing but a mass of intricate lines which are impossible to be made out. No allowance either is made for our coarser materials, their darker colour, or the want of that powerful sun of which the Greek example has the advantage.

The most perfect antique Corinthian capital, is that from the Temple of Jupiter Stator at Rome, and there can be no doubt that it is the most beautiful of the kind which has been handed down to us. Gwilt says, "that it has received the admiration of ages," and very justly so; but at the same time it cannot be advanced as a model to be

copied, for, in the first place, it is not suited to our climate. It is too elaborate and too full of minute parts; and above all there is a want of that simplicity which is necessary to produce clear and effective light and shade. In our climate, where we do not have too much sun, and more especially in our large towns, where materials become very much blackened by smoke, external carving generally, according to its distance from the eye, should be simple, clear, and distinct. The capitals of columns should be executed in a broader manner than either the Greek or Roman examples — with an eye to the massing of the light and shade, and developing the forms of the several parts in a more decided manner. The forms of the leaves and scrolls should be well pronounced, and there should be very little surface carving upon them to interfere with their forms and outlines. Distinctness in carving, when viewed from a distance, gives it a great charm. This is one reason why guilloches and frets, zig-zags and tooth ornaments, look so well; they are always clear and distinct. Confusion of form may produce overloaded richness, but it can never produce good and judicious ornamentation. Without distinctness the eye takes no interest in what it sees. Every advertising tailor understands this principle, for the higher he puts his sign, the clearer, he takes care, it shall be to read; and we throw away our ornament if we put it so that it cannot be read also.

In modern carving, the outline and forms of the foliage are often very slightly attended to, and the workman, in order, as he thinks, to obtain boldness, cuts up the whole surface of his leaves with innumerable lines, until the form or outline of the leaf, to the eye, is completely destroyed. When he observes that his lines produce so little effect at the distance from which they have to be viewed, he proceeds to cut some of them in much deeper, which, by destroying the lights, probably only makes the matter worse. This is a mistake, however, which is not confined to the sculptors of the present day. Much of the carving of St. Paul's Cathedral has the same fault. Some of the bosses in the ceiling of the nave are so cut away, and are so full of minute parts, that they look from below nothing but masses of shadow. There is a multiplicity of small shadows, but no parts broad enough to receive the necessary amount of light. The guilloche in the arch-bands of the same ceiling shews by contrast how well ornament looks when properly relieved by shadow. Here, simply by the guilloche being in full light, surrounded by shade, it shows itself boldly and effectively.

The modern Acanthus leaves of Corinthian capitals have often the same fault as the bosses in St. Paul's Cathedral of which I have spoken. The number of lines upon their surfaces produce quite a dark tint, having anything but the effect intended: they are scored all over with lines. Thus, when a capital is made up of such leaves, you have a mass of intricate shade, with scarcely room left for the play of a single light broad enough to be seen from below. But the great difficulty with the Corinthian capital is its multiplicity of parts; containing, as it does, sixteen leaves, besides the eight scrolls or volutes, and leaves supporting the angles of the abacus; in addition to which, there are yet the eight

smaller scrolls which meet in the centre, and support a flower which is placed on the four faces of the abacus. There are, in fact, three distinct ranges of ornamentation; two of leaves and one of scrolls. The first suggestion would appear to be, without omitting any of the parts, to simplify them, by leaving out many of the lines of which I have spoken, and producing more light on the surface of the leaves and scrolls. I have tried this, and have produced a partially successful result; but still, to my eye, it has had a crowded effect, and I have felt a strong desire to weed it out, and to do away with some of the parts. Now, the great alteration caused by the Mediæval treatment of the Classic capital was precisely to do this, and to form it with two rows of leaves only — two ranges of ornamentation instead of three. In the Early French examples the leaves became a happy mixture of the turned-over leaves and the angle scrolls of the Classic, and were arranged much after the manner shewn in Plate 47. Here, then, is indicated the remedy; and I would take the Early French capital and graft upon it again the Corinthian, to produce a new variety.

In the capital given, Plate 48, although a small example, an endeavour has been made to give a more simple version of the Corinthian, but omitting the conventional scrolls. It is formed with natural leaves, arranged in the Corinthian manner. The lower leaves are a modification from the triple leaves of the common Creeping Crowfoot; while the upper, in order to get a substitute for the bulk and importance of the scrolls, consist of the trilobed leaves of the Hepatica. The manner in which the points of the leaves are brought together, especially the lower lobes of the upper leaves with the centre lobe of the lower leaf, is in accordance with a very elegant Mediæval practice, as seen in the finials, from the arcade at the back of the altar, in the Presbytery of Winchester Cathedral.* The shaft consists of a double interlacing of flat bands, enriched with roses and a trefoiled scroll alternately.

The double capital given on Plate 47, is formed upon the Sweet Pea, which is a very elegant and graceful flower. The flowers of all the Pea tribe are formed principally of two parts — the standard, which turns back and stands nearly upright, hence its name; and the keel, which is shaped somewhat after the manner of a boat, and contains the pistil and stamens. The flower is used here as a *crochet*, after the Early French manner of forming capitals. The keel is filled with Peas in order to get it of a more globular form, to obtain bulk and boldness. The leaves are more those of the Kidney Bean, as the Pea leaf consists of leaflets in pairs, terminating in a tendril, and was not appropriate in the present instance. The Pea also is a plant which has stipules which are largely developed; but here, as they would have interfered with the outline of the capitals, they have been only slightly indicated. We do not usually find Early English capitals arranged with the "*crochet*," as in Early French. This was probably owing to the early disuse in England of the square abacus, the angles

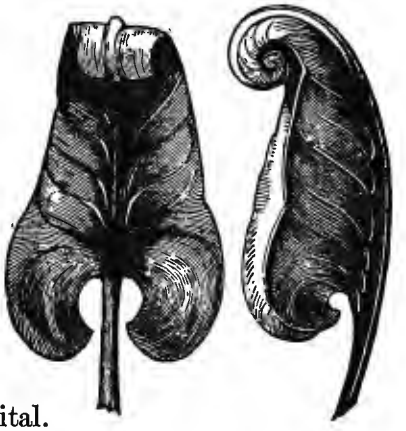
* *See* Plates 93 and 94, Vol. I. *Gothic Ornaments.*

of which gave the necessary projection for its proper development. A common treatment in English capitals of the Early period, was to turn the foliage on one side, lying upon the bell. It was, however, sometimes turned over in the manner of the French "*crochet;*" but, in consequence of the want of projection caused by the round abacus, the "crochet" never became of the same importance, and the capitals never gained so elegant and varied an outline as was obtained by the French.

Many of the smaller variations upon the Corinthian type of capital during the last century were formed with plain leaves — technically called "water leaves" — instead of the usual "raffled" leaf. Capitals, also of the Mediæval period, were sometimes formed with plain leaves of a very bold character, as at the church of St. Nicholas, Blois, from which a good example of the kind is given by the Rev. J. L. Petit, in his "Studies in France." This mode of treatment offers a means of gaining much simplicity of line united to great boldness of light and shade; points of the utmost importance when capitals are to be viewed from a distance.

There are in nature leaves undivided by distinct lobes, which are of the most elegant forms, more especially in the manner in which they turn or curl back upon the stem, somewhat after the shape of an arrow. Among these may be classed the leaves of the common Arum or Cuckoo-pint, the Bind-weed, and several of the tribe of Docks. The capital given, Plate 49, is formed with leaves of this simple character. The main leaves are from the fronds of the Hart's-tongue Fern, and are united at the bottom, to obviate the usual abruptness of leaves starting immediately from the necking, as if merely stuck up in their places. The angle-scrolls are from the same Fern, as seen when first issuing from the ground. All Ferns, with one or two exceptions, have their fronds rolled up in spirals when in embryo, and form most beautiful objects while expanding. The French artists of the 12th century appear to have watched them very attentively, and probably it was these little spirals that first suggested to them the "*crochet,*" which was afterwards so largely developed. Figs. 108 and 109 represent the front and profile of one of the half-expanded fronds of the Hart's-tongue Fern, drawn from nature and about the natural size. The upper centre leaf of the capital is a conventional treatment of the leaf of the common Arum. The abacus, which is square, is of the Norman type, with a conventional ornamentation in flat relief. The arch above is intended to be well brought over upon the capital.

Fig. 108. Fig. 109.



The concave form, in plan, of the Corinthian abacus is not so indicative of strength for the purpose of support as the square one, and when it is used, it is almost necessary to keep the face of the work above it in a line with the shaft of the column — an evident

imperfection, as it in reality gives the capital nothing whatever to do, and it becomes a mere ornamental termination to the column. This is, however, the case with all the Roman orders. The architraves resting upon the columns are invariably in a line with the face of the shaft. The Greeks, in some of their earlier Doric temples, as in the great hexastyle temple at Pæstum, kept the architrave, in the same manner, in a line with the shaft of the column; but they afterwards appeared to have recognized this as a defect, for in the Parthenon, they brought the architrave considerably over upon the capital. It was thus made to perform an important duty—that of positively supporting a portion of the superstructure. This rule is followed also in the Erechtheum, the monument of Lysicrates, and most of the Athenian buildings.

With the abandonment, however, of the entablature, the columns were made to carry arches instead of flat beams, and the springing stones of the arches were brought well out upon the abacus of the capitals—a system which is by far the best, as it gives the capital a positive use. In some of the early churches of Italy, where the Classic capitals of earlier buildings were used to carry arches, it was often found necessary to put a square abacus over the ordinary curved one of the Corinthian. This necessity gave rise to the double abacus, which was afterwards so often adopted during the Byzantine period. It consisted of a sort of doubled-curved abacus put underneath the square one.

The height of a capital cannot always be the same in proportion to the diameter of the shaft: for, according to the height of the column, or the position it has to occupy, the capital must be viewed at very different angles. Therefore, the higher it is placed, as with all other architectural features, the more elongated it should be made, to allow for the foreshortening which takes place when seen from below. The height of the capital (Plate 49) may be in excess if near the eye, but not if put considerably above it.

The capitals given on Plate 50 are arranged upon the Anglo-Norman type. In the first, the very beautiful floriated spirals of the Heliotrope have been taken advantage of, giving a sort of radiated halo and *crochet*, at the head of the cap between the angle *crochets*. The leafage partakes somewhat of the Poppy character, but the angle *crochets* are closely conventionalized from the young fronds of the Lady Fern, as they are found when first issuing from the ground, curled up in elegant little spirals.

The natural type of the second capital is the Wild Briar or common Dog Rose. The angle *crochets* will be recognized as the character of the leaf bud, when it unfolds itself in spring, shooting off at an angle to the parent stem. The leaves of the buds are folded and curiously plaited one upon another.

The third example is a coupled capital taking up the Norman cushion capitals. The two first examples have the Corinthian form of bell, which was not introduced until late

in the Norman period, as may be seen by the capitals in the choir of Canterbury Cathedral. In the coupled capital the cushion character is retained by the principal lines of the foliage, after springing out of the bell, curving down from the centre and rising to the angle *crochets*. The foliage is brought square out to the form of the abacus, and the *crochets*, which are taken from the Hard Fern, form solid square angles, thus preserving the conventional outline of the Norman cushion capital. Water Cress and Wild Strawberry spring in an upright line from the bell, whilst their extreme shoots fall under the *crochets* at the angles. Seed leaves mark the springing of the foliage from the necking. The plain portion of the bell is enriched by an inlay in dark cement, or with glass mosaic, representing delicate Fern fronds, which would be rendered far too coarsely by ordinary carving. The abacus is also inlaid, suggesting a double ornamentation, the dark part being a conventional rendering of the Snowdrop, while the light portion is from the Lily. Ferns offer examples of some of the most lovely and elegant forms in nature, and well deserve the most attentive study. They have become, within the last few years, very great favourites with the general public, and they are now cultivated so much, that there is but little difficulty of getting examples to study from. Their delicate little fronds are very beautiful when first appearing through the earth, and the different forms that they assume in expanding offer many most valuable suggestions, which may often be successfully turned to account for the purpose of ornamentation.

A large coupled capital is given at Plate 51, embracing also a small corbel issuing from the same foliage, to take the central band of arch mouldings. The capital is formed upon what I have before distinguished as upon the Corinthian type — that is, having a basket-formed bell, with foliage springing from the necking, with large *crochets* or scrolls supporting the angles of the abacus. The *crochets* are formed of expanding Fern fronds, accompanied with conventional foliage. The central stem of the large *crochet* is inlaid with one of the narrow delicate branches of the frond of the Shield Fern, having on each side the leaves of the Celandine. The lower *crochets* are filled in with the leaves of a hothouse plant, called the *Grevillea Acanthifolia*,* having central stems formed by a series of the scrolls of young Fern, arranged above each other. The corbel springs from the intersection of the capitals from behind a leaf of the *Grevillea Acanthifolia*, which curves forward to permit of its doing so.

Leaves in sculpture can seldom be rendered precisely as they are found in nature, especially in a work which requires boldness and breadth of design. Many of the delicate divisions that are found in nature must be omitted, as they would be lost and not at all effective in stone. One of the greatest difficulties in taking architectural foliage from nature is the impossibility of copying. In designing a capital, for instance, you may set out, with your natural examples before you, with a determination to embrace all their beauties. But it is of no use; beautiful, elegant, and lovely as they are, you fail in applying them as you see them in nature, and you are fortunate, if you can only

* *See* No. 85, Plate 69.

manage successfully, to adapt but a few of their beauties. It is, however, perfectly right that it should be so, for if we could copy nature, there would be no art in its application. All architecture is strictly conventional, and as the foliage forms a part of that architecture it must also be conventional. There are many cases where more latitude may be allowed, as in flat ornament and painted decoration, where the delicate forms of nature may be much more closely followed. In sculptured foliage there is required a peculiar rendering and a massing of light and shade, which cannot be obtained from nature. It often happens that leaves, when so rendered, do not much resemble the original type from which they were taken, but resolve themselves occasionally into leaves having a resemblance to other species. As an instance, one of the modes of architecturalizing a leaf is to modify it by reducing its number of parts. This has been done in the present capital with the Fern fronds and the leaves of the Celandine. In the treatment of a five-lobed leaf, as of the Vine, if the serrations of the lobes are reduced to three it has a resemblance to the Maple, and if they are entirely omitted it has an affinity to the Ivy leaf. In the same way, the Parsley will assimilate to the Crowfoot and Wood Anemone; the Horse Chesnut to the Cinquefoil; and the Cinquefoil to the Strawberry, Trefoil, Hepatica, or Water Avens, according to the number of parts, or the peculiar form given to the turn of the lobe, so that when carved there may be doubt as to what particular leaf it is intended for. This, however, need not trouble the artist, nor prevent him making any alteration or reduction of parts that may suit the object before him. Let it be but natural and in accordance with nature's laws, when she herself makes her leaves less intricate, and the result cannot but be successful. Leaves are much less complicated and have fewer parts when young. The Thorn is only divided into three when it first expands, and the leaflets of the Strawberry have but three serrations each, and probably are at first perfectly plain and uncut. It is the same with many other species of foliage, and, consequently, there can be nothing improper in adopting nature in its more primitive form.

The object should be to aim at the broad general character of the leaves; still there are minute points and beauties which the true artist will not overlook, and the detecting and applying of which will give an infinite charm and grace to his work, which will shew the true artistic feeling. Observe everything closely and minutely, and give up only that which is not applicable to your work. If you recognize a beauty in a leaf, a flower, or a plant, you must adhere to it tenaciously, grasping with eagerness the idea to work it out and develope it for your use. In doing so, it has to undergo many operations of the mind and hand, and if you are not extremely cautious, the beauty will vanish and leave a something which is only ordinary and commonplace. It is necessary to be careful how you fall into conventionalism, for if the same form be too often repeated, let it be ever so beautiful, it at length becomes mannerism, and nature then will soon be lost sight of. This is seen clearly by several phases in the history of art, particularly in the foliage of the Perpendicular period. Much of it is very beautiful, but the mannerism of the time is seen everywhere, producing monotony and sameness. The hand of the workman, by

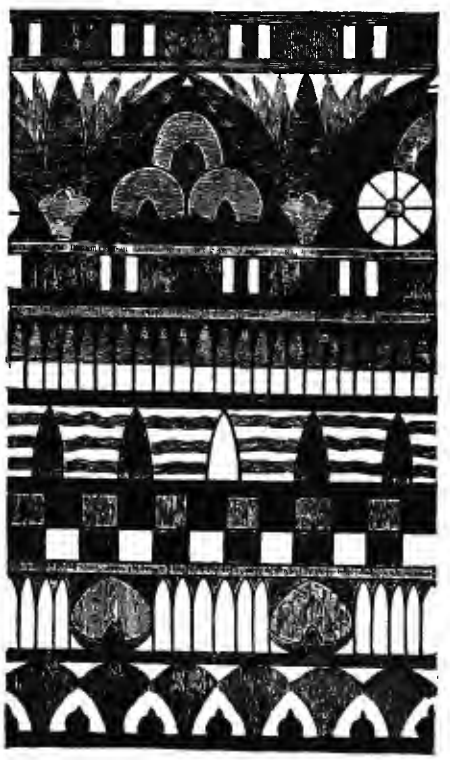
constant reproduction of the same form, becomes machine-like, and it is no longer Art Foliage. There are no distinctive features by which it is associated with the variety and ever-varying forms of the original types in nature. Foliage may either be too conventional or too natural — the happy medium is the most preferable. That which is wrought in this, the nineteenth, century should be imbued with nature, and not be a copy of any particular style or period ; for, let it be ever so successfully copied, it is but speaking to the present generation in a dead language.

CHAPTER XI.

CORBELS.

THE highest class of foliated sculpture is that which expresses some thought or idea beyond the mere combination of leaf form — not exactly by a representation of the thing itself, but by adopting some form of expression which will be symbolical of that which is to be pictured forth, the meaning of which is rendered sufficiently clear and expressive to those who attempt to look beyond the mere surface of things. Alas, that language by symbolic ornamentation should be now so much neglected! — that we should be content with copying and recopying foliage which is not only bad in form, but is utterly meaningless in its application! Yet the symbolic form is the most ancient mode adopted by mankind to express their thoughts, and the symbolic form of ornamentation followed as the most natural means of decorating their works. Look for a moment at the meaning and force of expression in some of the most ordinary of the Egyptian ornaments. Fig. 110 is from an ornamental border upon a mummy case, where the closed buds of the Lotus, the sacred lily of the Egyptians, are represented as appearing through the conventionally expressed water, while the fully expanded flower speaks of the waters having receded. The Egyptian cast his bread upon the waters of the Nile, hoping to find it after many days, and the plentiful appearance of the Lotus told of the lowering of the waters, and gave promise of an abundant harvest. The Lotus, therefore, was the welcome harbinger of plenty, and came to be regarded as an emblem of faith, speaking of a happy land, where this worshipped flower would henceforth bloom eternally.

FIG. 410.



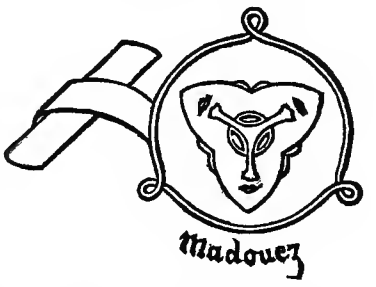
It may, however, be said that all such symbolic form is useless in our age — that we have a comprehensive written language, which will express our thoughts much clearer

and more perfectly than by any such means — which, by the powerful aid of type and the printing press, can be repeated a thousandfold, and sent to the four corners of the earth. True, but symbols are the poetry of form, as verse is the poetry of language, and we are not so rich in poetic feeling that we can afford to give up this, humble as it may be. It is a language that all ages may translate, if they do but search for that thread which leads to its unravelment. There is a soul in symbolism, to which our matter-of-fact alphabet can never attain. It is a language which to the poetical mind gives rise to thought within thought, until the ideas are lost in the vastness of their conception, while to the inartistic or unpoetic soul it must ever remain a blank : —

"A cowslip by the river's brim
A simple cowslip is to him,
A cowslip — nothing more !"

Mediæval artists speak to us of the Trinity by their triple foliage, and of their faith, by the way they dwelt upon and developed so many beautiful forms of the cross. Fig. 111 is a very curious example of the symbolic form of representing the Holy Trinity, by the triple union of three heads. It was given in the *Building News* a short time ago, and is supposed to be of ancient date. Heraldry, again, was a language of symbols of the most interesting character, and heraldic forms entered very largely into Mediæval decoration. It is still used to a limited extent, but it would be well if it were more studied, and its forms introduced among the ornamentation of domestic and other buildings. Monograms, also, if judiciously treated, and not too often repeated, are useful auxiliaries to ornamentation. An example upon a wall diaper, has been given at Plate 11. There are several Plates where a symbolic meaning has been sought to be given to the designs. In Plate 20 the parable of the Lilies of the Field is illustrated, and in Plate 32 the parable of the Wheat and Tares has been rendered by a symmetrical arrangement of foliage. Many examples of the kind are to be found in Mediæval buildings. Among others the parable of the Good and the Bad Tree is found wrought among the carvings in the Cathedral at Amiens.

Fig. 111.



In Plates 52 and 53 I have endeavoured to render, although in a different manner, the same idea in the form of stone corbels. In Plate 52, the Fig Tree has been selected for the Good Tree, as a foliage in unison with the saying of our Lord, and suitable to the quietude which should characterize the work. The variety of the leafage of the Fig Tree is endless, and from the simple bud to the fully developed five-lobed leaf the outline plays upon an ever-changing line of loveliness. The fruit, which in nature is more equally spread among the foliage, has been here clustered with the leaves into bunches or *crochets*. "Ye shall know them by their fruits. Do men gather grapes of thorns or figs of thistles; even so, every good tree bringeth forth good fruit, but a corrupt tree bringeth forth evil fruit." — Matt. vii., 16 and 17. Birds are introduced in

the corbel, to give contrast by action to the stillness of the subject, and to open up the foliage. The tree has its origin in a boss of Lilies, the Lily being the emblem of purity, which suggested itself as a fitting commencement of the subject.

Plate 53 is the accompanying corbel, and represents the Bad or corrupt tree. In its treatment the Woody Nightshade, with its poisonous fruit, of a shining, bright red colour, so temptingly attractive in the hedges, has been selected as the type or symbol of the corrupt tree. "For a good tree bringeth not forth corrupt fruit; neither doth a corrupt tree bring forth good fruit." — St. Luke vi. 43. The sharp and divided form of the foliage of the Woody Nightshade, and the clustered character of its fruit, required but slight effort to form them into a conventional tree. The thought of the design was to give as much luxuriance to this as to the other tree — in fact, more apparent life, as the wicked are often more prosperous in this world than the good; but the corrupt nature of the fruit is rendered obvious by the Evil Spirits, with which it is accompanied. The spirits are the embodiment of the fruit — "For every tree is known by his own fruit." The Birds, also, in the other corbel, are typical of the good fruit. A mass of Fungi, or Toad-stools, are supposed to give a poisonous nourishment to the roots of the corrupt tree. The tribe of Fungi have long been associated with weird thoughts and evil spirits, and, therefore, are appropriate as the source of corruption.

The foliage of the corbels, although from the nature of the subjects necessarily very natural in character, is still arranged in a conventional manner, in the form of bunches or *crochets*, in two rows of three each. Much depends, in the composition of sculptured foliage, upon the proper balancing of the light and shade, and arranging it in sufficiently broad masses. A thin cut-up appearance should be avoided, and the forms left by the piercings between the leaves and other parts should be studied, so as to present agreeable forms and lines. The light and shade should not give an appearance, when seen from a distance, as if the stone had been honey-combed, or eaten away by the weather, but should be massed and grouped, with smaller lights and shades breaking into the principal masses, to obviate a too monotonous appearance.

The corbel as a decorative feature, when applied to its legitimate purpose, is almost entirely Gothic. In the Norman, corbels or blocks were used, placed at intervals to support the projecting portion of the upper part or parapet of a wall — hence called a corbel table — an evident relic of their duty as modillions in the Classic cornice. The modillion, or console, is the only counterpart of the corbel in that style. It is curious to see how the form of the console has been abused in the Classic styles. From its original purpose, that of supporting the corona of a cornice, it came to be set up on end to carry the projecting ends of a cornice over a door or window; or it formed the keystone of an arch. It was afterwards laid on its back, or placed with its small end upwards, as a sort of buttress or flanking piece, where the cornice of a lower wall abuts against a higher one. Sometimes it is used in this position upon a very large scale. At length, during the Renaissance, it became applied to the chimney pieces, and did duty, in

its elongated form, as legs to chairs and tables, and probably gave rise to that inordinate use of the curve of double flexure, miscalled the "line of beauty," which so characterizes the style of Louis XV. — a period during which straight lines were especially avoided as things too common and vulgar for use, and nothing went down but compound curves and continual scroll work; one flowing from, or abutting upon another. The very dregs of the style are still most pertinaciously adhered to by many picture-frame makers and furniture dealers. The whole progress of the S-formed scroll, from its first position, forming the sides of a Corinthian modillion, was a downward one.

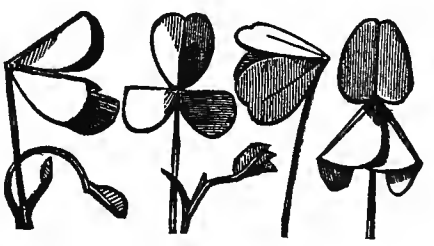
In Gothic art, the corbel attained a prominent and useful purpose, and, from its origin in the mere block, it became developed into a feature of great beauty. One of its most ordinary and useful positions was to receive the vaulting shafts above the capitals of the main piers, as at Ely and Exeter Cathedrals, and many other buildings. Another purpose was to take the mouldings of an arch, where they abut against a wall or respond, instead of a capital and attached shaft or half-pier, where it is desirable that the space below should be left clear, and the members not carried to the ground. The latter position is that which the present corbels are intended to occupy. The French draw a distinction in corbels. They call those only *corbeaux* which have parallel sides — that is, of the original block type — while those terminating more or less in a point, as in the examples now given, they term *culs-de-lampe*.

CHAPTER XII.

FINIALS AND CROCKETS.

SMALL objects, when coming against the sky, are usually seen dark against the light, giving them a distinct and marked outline. The forms, therefore, of finials require considerable attention, and surface carving is scarcely at all required. Plate 54 represents two finials arranged upon the Clover, which are indicative of Morning and Evening. The foliage is arranged crosswise, each series of leaves alternating with the last, as is always the case in nature. The Trefoil was ever a great favourite with the old art workman, who delighted in its use to express the fullness of his faith, by the triune character of its leafage. The Clover was also considered to be particularly "noisome" to a witch or other "familiar spirit," and a great protection against the Evil One. In common with many other plants, the Clover closes its leaf towards evening. Two of the delicate little leaflets may be observed after sunset to be compactly folded one within the other, while the third depends hood-like over them. Fig. 112 represents its closed appearance in four different positions, cherished within itself as naturally, and with the same intent, as when the bird nestles its head beneath its wing. It is the plant sleep; and indicates a natural cessation of life force, doubtless as re-invigorating to the plant as sleep to the animal. The closing and opening of the modest Daisy have been noticed from the time of Chaucer, who called it the "Day's Eye" because it opened to the returning light of the sun. But this closing or folding is common also to the Oxalis and many other plants, and it is somewhat surprising that so little beyond mere theory is known of the sleep of the floral world. Closely allied to plant sleep is plant motion, or the turning of many flowers to the centre of light, as the Sun-flower, and Heliotrope, or, as it was anciently called, the "Turn-sole." As also, again, in the little Pimpernel, or Shepherd's Weather-glass, which closes its flower from the effect of a mere cloud pasing over the face of the sun.

FIG. 112.



In the two finials before us (Plate 54) an endeavour has been made to render in stone this idea of plant sleep in the Clover. The one has the foliage, refreshed, as it were, by sleep, expanding into light and morning life; while the other takes the character of the

repose above spoken of, with the foliage more or less doubled up or lapped together. One cannot but feel, in composing architectural ornament idealizing the sleep of plants, that, however perfect may be the intention, unless the sculptor in rendering it be a true artist, his foliage will but represent mere drooping and lifeless form. Still, to the carver who, side by side, can chisel the sleep of life and death in the human creature, this would offer but little difficulty.

The practice of ornamenting spires, gables, and canopies with crockets, or, as the French call them, *crochets*, from which no doubt our word *crocket* is taken, commenced during the thirteenth century. Probably those upon the turrets and gables at the east end of Lincoln Cathedral are some of the earliest examples to be found in this country. They were, however, used in other positions, such as in hollows between the shafts of columns, and in arch mouldings, as may be seen in the interior of the presbytery of Lincoln Cathedral, the choir of Ely Cathedral, and several other buildings during the Early English period.* But, in their application to the latter purposes they cease to be known by our English name, *crocket*, and as we have no distinctive name for them, we have latterly adopted the French term of *crochet*. They also, as I have already before noticed, are sometimes used in the formation of capitals. The crocket, or *crochet*, is purely of natural character, it being evidently derived from the budding of foliage in the spring. "Les premiers signes du retour de beaux jours," as M. Viollet-le-Duc expresses it. Take, for example, the common Ivy, and examine the minute little buds, and see what elegant little crockets they form. Look also at the buds of the Fern tribe, two of which are given enlarged from nature on Plate 55, the Maiden-hair Spleenwort and Hard Fern, the latter of which was used in the coupled capitals, Plate 50; also in the Vesica, Plate 32. Other Ferns, as the common Brake and the Lady Fern, offer again most elegant *motifs* for crocket form.†

Of the crockets given on Plate 55, the first is an architectural interpretation of a bud of Wild Briar, and upon which the snail, that enemy to those delicate and tender shoots, is introduced as a too frequently natural accompaniment. The second example is from the Clover bud, and is intended as a crocket to accompany the finials given on Plate 54. The third example is from a triple-divided leaf, and the leaves are shewn, as it were, embracing each other, as they are so often most beautifully seen in the folding of plant buds. The fourth and last example is from that elegant little Fern, the Maiden-hair Fern. The natural buds, however, are so minute as to require a powerful glass to discover the bent of their wayward loveliness. A leaf of the Hart's-tongue Fern, to support the ball, completes the crocket. Such minute and elegant little buds as these, so full of the germs of life and beauty, were the objects that our artist fathers so delighted to examine and imitate.

* *See* Plates 21, 45, 56, Vol. I., COLLING'S *Gothic Ornaments.*

† *See* Plate 64.

CHAPTER XIII.

Wooden Brackets and Stall Elbows.

PLATE 56 represents a bracket for an oak reading-desk or lectern. It springs from a small shaft, worked on the front edge of the oak standard out of the solid, and has a pierced spandril and cross. The mouldings forming the front edge of the bracket are a filleted bowtell, with a hollow on each side. The principal *crochet* on the moulding, which springs from the capital of the shaft, is taken from the opening frond of the Scale Fern, or Scaly Spleenwort, while the smaller one in the hollow is from the Hart's-tongue Fern. More fully expanded fronds of the same Ferns curl into the angle, and extend upwards with the form of the bracket. Too much attention and study cannot be given to the elegant forms and charming lines, to be found in natural Fern fronds during all their stages — from their first issuing from the ground, in the most minute and delicate spirals, to their full and most vigorous expansion. The elegant feather-like curves of the Lady Fern are very graceful and suggestive, and the tall, vigorous, crown-like bunches of the Shield Fern give the purest lines of life. There are also many other beautiful Ferns containing forms of the greatest value in art, which should be sought out and studied in their natural element — the warm, moist woods —

> "Where the copse-wood is the greenest,
> Where the fountain glistens sheenest,
> Where the morning dew lies longest,
> There the Lady Fern grows strongest."
>
> SCOTT.

The little Scale Fern, however, is only to be found in the crevices of old walls, where the young fronds, with their little rolled-up heads, are quite captivating in their simple and minute beauty. The head of the half-opened frond is like a little round ball, of a reddish brown colour, while the inside of the frond is of a delicate soft green, with its edges tipped by the reddish brown, the two colours harmonizing together in the most delicious manner. There is another, a still more minute Fern than the last, which serves to clothe with beauty the old walls of our ruins, also deserving careful attention — the Wall Rue; it is more leaf-like in character than the last, and of a dark green colour, of very pleasing and simple form.

The head of the bracket terminates with a cluster of foliage under the book-board, taken from the common Water Cress, the leaves of which contain, in the principal lobe,

a delicately suggested Trefoil of a rounded and globular form. Monsieur V. le-Duc * says of this humble and vulgar plant, "Regardons cependant avec attention ces tiges souples et grasses, ces pétioles bien soudées, ces courbes gracieuses des limbes. * * * Pour faire un ornement avec cette plante, il faut en sacrifier quelque chose, donner de la fermeté aux silhouettes des pétioles ; il faut prendre et laisser, adjouter et retrancher ; ce qu'il faut conserver, c'est la forcer, la grâce, la souplesse, l'aisance de ces contours."

The spandril is formed from the foliage of the Rampion, in its young state. The cross is of a conventional character, formed with half expanded foliage, and containing five ruby-coloured jewels, set in copper gilt, typical of the five wounds of our Saviour. The Lily is inlaid upon the plain surface. The stems and leaves of Rosewood, the flowers Lime, and the vase Ebony. The arrangement of the Lily has been suggested by observing the elegant treatment of the Lotus-lily upon some of the Egyptian sculptures. It is a pity that the art of inlaying woods, is not practised more than it is. It is a very graceful mode of ornamentation upon the plain surface of woodwork, and, with our modern appliances for cutting out the forms, it no doubt can be done with great precision and facility.

The ease with which wood is cut and moulded by the hand into the utmost variety of form, gives great power to the carver for freedom in design. The strength and tenacity obtained by a hard, close-grained wood allows of a vast amount of relief and through carving, united to extreme delicacy, to be carried to an extent which becomes somewhat marvellous. Many of the works of Grinling Gibbons, in which natural imitations of birds, fruit, and flowers are rendered with all the intricacies of nature, shew of what great delicacy of manipulation the material is capable. Such extreme delicacy, however, is not desirable or necessary when applied to ordinary carving ; still, if the wood be of a hard and close grain, such as in the better kinds of oak, walnut, chesnut, or other hard woods, it admits of the most intricate combination of form, being easily attained by piercing and open work. Much may be done in flat design, by simply cutting out the form in thin wood by the aid of the saw, technically called *fret work*. The patterns executed in this manner, as sometimes seen upon pianofortes, are, however, often of the most wretched description, without either beauty of line or good arrangement of form, and yet they are frequently most ingenious and intricate.

Spandrils and panels carved in thin woodwork, having the interstices cut through, as in the examples given on Plate 25, are particularly applicable to panels of doors, spandrils in screenwork, or arcades. Where it is an object to prevent the passage of air through the open carving, it may be backed up with plate glass. Should a dark background be desirable, with a sufficient amount of intense shadow to make the enrichments stand out clearly, it may easily be produced by recessing the wooden ground from the

* *Dictionnaire Raisonné de l'Architecture.*

back of the carving — that is, by leaving a hollow space between the carving and the ground, as in the spandrils of the stall work in the choir of Winchester Cathedral.*

In carving upon furniture, wood gives a great facility for piercing portions of the enrichments with excellent effect, as shewn, for example, by the stall elbows given on Plate 57. The first is arranged with a branch of the Vine in a spiral form, shooting forth three leaves, which are articulated to the stem in a manner natural to the Vine. Fruit, leaflet, and tendrils, complete the design, and although the foliage is carved through, it possesses sufficient solidity to efficiently do its duty as an arm rest.

A plant of the Pea tribe, with flower, is inlaid on the oak ground, in ebony and box. The inlay is placed here to fill up the surface of the plain work, and therefore does not necessarily form part of the design.

The second example for a stall elbow, is intended to be pierced and cut out of the solid. The bead on the edge of the ramp resolves itself into a foliated volute, throwing out leaves and buds at intervals. The idea was first suggested by the sprouting fronds of spring Brake ; but a more decided development of leaf form being required than the Fern afforded, the succulent foliage of the Nasturtium was adopted in its place, using the spiral line of the Brake frond.

It will be observed in these examples, that the end grain of the wood is kept uppermost, as is usual with old stall elbows. The arm rest having in the course of years to undergo a considerable amount of friction, this precaution, which enables it to withstand it to the greatest advantage, is very necessary. Many of the old examples, as at Winchester and St. Margaret's Church, Lynn, are worn so round as almost to entirely obliterate the carving.

* *See Gothic Ornaments*, Vol. I., Plates 80 and 81.

CHAPTER XIV.

IRON-WORK.

THE enrichment of the plain surfaces of doors by the expansion of the hinges, and the application of cross bands, formed into all kinds of elegant foliage and scroll work in iron, was a favourite mode of ornamentation, even among the Anglo-Normans. Many excellent examples of this are still remaining on the doors of our old churches. Ornamental iron-work and hinges are represented on doors, in drawings and paintings upon manuscripts dating as early as the tenth century. Some examples of these drawings, taken from early manuscripts, are given in the first volume of the *Domestic Architecture of England*, by Hudson Turner.

During the thirteenth century the art attained a most marvellous degree of excellence, embracing a wonderful beauty in design, and the utmost skill in workmanship. When we look into and minutely examine such works as the iron work on the west doors of Lichfield Cathedral, or the still more magnificent iron-work on the west doors of Notre Dame at Paris, we are lost in admiration and wonder. But, like all other things in art, when it once had culminated, it became, after a time, debased and neglected. Such was the case with iron-work on doors. The early pure forms were altered and departed from, until the art became but a pale reflection of what it had been in its more glorious days. At length, during the fifteenth century, its application to the surface of doors was altogether discontinued, and doors became covered with elaborate combinations of wooden mullions and tracery. In the present day much has been done to resuscitate the old art of working in metals, and, to a great extent, it may be said that it again equals its existence in former days. The magnificent screen executed for Hereford Cathedral, and exhibited at the International Exhibition of 1862, is worthy of being placed side by side with those great works of old. All honour to the architect to whom we owe the design, and to the artists who so zealously wrought out the conception.

There are, however, far humbler works than these to which this art is being successfully applied, and in which metal workers have made rapid strides of late years — so much so, that ordinary Gothic metal work is now immeasurably superior to what could be obtained fifteen or twenty years ago.

The hinge given on Plate 58 is taken almost literally from nature. It consists, both in branches and foliage, of a small sprig of Clematis. The curves in the natural example partook of the oval character, as seen in the hinge, and the upper branches, with the leaves partly expanded, met in a point over the central bud. The lock plate is also from the Clematis, but interpreted with greater freedom and irregularity, partaking more of the general character of the plant. The foliage springing from a knot at the bottom is made to break up the stiff rectangular form of the lock plate, and the upper and lower parts of the composition, are designed on different elementary lines, embracing both the angular and the curved. The closing ring is also, generally, from the foliage of the Clematis. The petals ranged round the centre are intended to half conceal the springing of the leading lines. Each lobe of the quatrefoil, is filled with a small flower and profile leaf of a different type, which was necessitated by its following so nearly the curve of the cross form stems of the Clematis. It may be well to mention, that the ring is fixed higher up the stem than usual, making it form part of the floral composition. At the same time, it is kept distinct by the staple and upper part being composed of animal life, and the bottom having a knot of Acorns for the hand to grasp. The ring can either be applied as a latch or a knocker, or both at the same time.

The success of freedom in design depends almost entirely upon the lines in the composition being arranged in a geometrical manner after some rule in art, while certain minor parts are treated irregularly, and even, occasionally, in direct opposition to the leading forms and established rules. Apparently it may be done without rule, or in opposition to rule ; still there is a rule — the rule of nature. Nature is very regular, even more so than art; yet its regularity is so wonderfully concealed by its irregularity, and the blending is so marvellous, that art can only attempt to follow at a humble distance. All art, however, should be imbued, more or less, with the same spirit. There are two great principles, if they may be so called, which exist in nature, and are equally applicable in art. Regularity, which pleases and satisfies the eye by its correctness and order; and irregularity, which gives freedom and piquancy by its opposition — in nature it is that life which in its vigorous growth oversteps the rule. In art compositions, the principle of regularity must always be apparent, otherwise freedom will merge into vulgarity, and become rudeness without design.

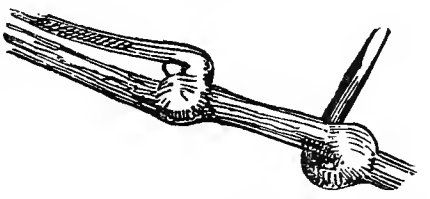
The principle of irregularity is also that of the picturesque, and all nature is picturesque to a more or less degree. Freedom in design, therefore, is the element of the picturesque, or that which is natural, while symmetry and geometrical regularity is the rule of art. Lines in nature are bent, and what is commonly called " crooked ; " art makes them straight. Curves in nature are often irregular; art regulates them. But, if art dispenses entirely with the irregular, it becomes stiff and stilted, and no longer natural. No art should be without this element of the picturesque, the irregular, or the natural — no matter what it is called. The mind and eye are quiescent while viewing perfectly geometrical composition — there is a quiet satisfaction that everything

is correct and according to rule; but engraft upon it the irregular, and we are at once drawn towards it with very different feelings. It then becomes picturesque. Before it was a beautiful object, even and uniform; now it is natural, it has variety and freedom, and we look upon it and meditate its character. If we there see the *thought* of the artist mind, and if it be fraught with life and beauty, it will light up that which is in our own, the eliciting of which constitutes the true poetry of art.

On the other hand, freedom in design is often carried to the extreme, without observing any of the rules of art. All that which has been hitherto acknowledged as "the beautiful" is ignored, all is sacrificed to an insatiate craving after originality — an originality which sets at defiance all rules or forms of beauty. Rules of art are found by carefully studying those glorious works which have been handed down to us by the great workers of old. Such rules should not be departed from, except by engrafting upon them that which is natural and lovely, to do which successfully we must assiduously study nature hand in hand with the study of these works.

In the examples given of a hinge (Plate 59), the arrangement of the design is conventional (that is, according to certain rules of art), but the treatment is purely natural. Two branches spring diagonally from near the base of the hinge, from a point in each of which shoot two scrolls, a small one and a large one, and from the base of the smaller one, a spur or stipule. The main scroll throws out branches, two of which grow from the contrary side of the stem, and cross in their growing direction as they often do in nature; seen in the Vine, the Ivy, and other plants, as shewn by an example from the Vine, Fig. 113. The square shoulders at the springing of the branches are taken from old examples of metal-work, and are evidently a conventional rendering of the swelling of the leaf stalk, at its point of junction with the parent stem; shewn also by woodcut, Fig. 113. The foliage is from partly expanded fronds of the young Brake, when first issuing from the ground. The closing ring is a symmetrical arrangement of plant form, the handle being composed of profile fronds of the Hart's-tongue Fern and a central flower, with one touch of the irregular, in the side growth of the Trefoil at the bottom.

Fig. 113.



The long lines of the ridges of roofs offer an appropriate position for open-work ornamentation, to break their abruptness or suddenness in the sky-line. Where the roof covering is of slate or lead, an iron or other metal ornament, technically called a cresting, appears to be the most suitable. Tile cresting has of late years been used to a great extent, but metal, either wrought or cast, offers facilities for greater development and gives a scope for greater elegance of form. The walls of our feudal castles were terminated by battlements, which from being first designed for use, afterwards became adopted for ornament, and formed a sort of cresting to break the monotony of the

horizontal straight lines. The Greeks also broke up the long horizontal lines formed by the cymatium of their temples by *antefixæ*, as seen in the flank of the Parthenon, and in the Honeysuckle ornament upon the cornice of the monument of Lysicrates. Terminations of a similar kind can again be traced in Moorish, Saracenic, Indian, and even in Assyrian architecture. The purpose in all was evidently to soften off the hard lines of walls and tops of buildings, coming against the sky — being the penumbra, as it were, to the shadow. It was but natural, therefore, that, with the adoption of the high-pitched roof, Mediæval artists should have selected the ridge for decoration. There are not many examples of roof-cresting remaining in this country, beyond a few very simple ones in tile, and one of lead which still exists on the roof of Exeter cathedral. There can be no doubt, however, that numerous examples were at one time in existence, but they have long since disappeared with the high roofs themselves, or from the necessity of renewing the covering. That it was an ordinary Mediæval practice, is evident, from roof-cresting being so often indicated in many of the ancient illuminated manuscripts. Unfortunately, the coverings of ancient roofs were frequently of the most fragile materials, such as shingles of wood, and "thatching was not unfrequently used in buildings even of the better class." "The fish house at Meare, in Somersetshire, of about the middle of the fourteenth century, still retains its thatched roof." * Probably, also, thatched roofs were ornamented by a species of cresting, for in some parts of the country, we still see what would appear to be the remains of this old Mediæval custom. The "withys," or Willow twigs that bind the thatch, are sometimes arranged on the top of ricks and cottages in an interlacing manner, so as to form a species of ridge-cresting, terminating with a spike with a rudely formed cock. M. Viollet-le-Duc, in his *Dictionnaire Raisonné de l'Architecture*, alludes to the custom, which is also sometimes seen, of peasants forming the ridge of the roofs of their thatched cottages in mud, in which they insert plants and grasses to prevent the earth being dissolved and washed away by the rain. This practice, he considers, has been the origin of roof-cresting.

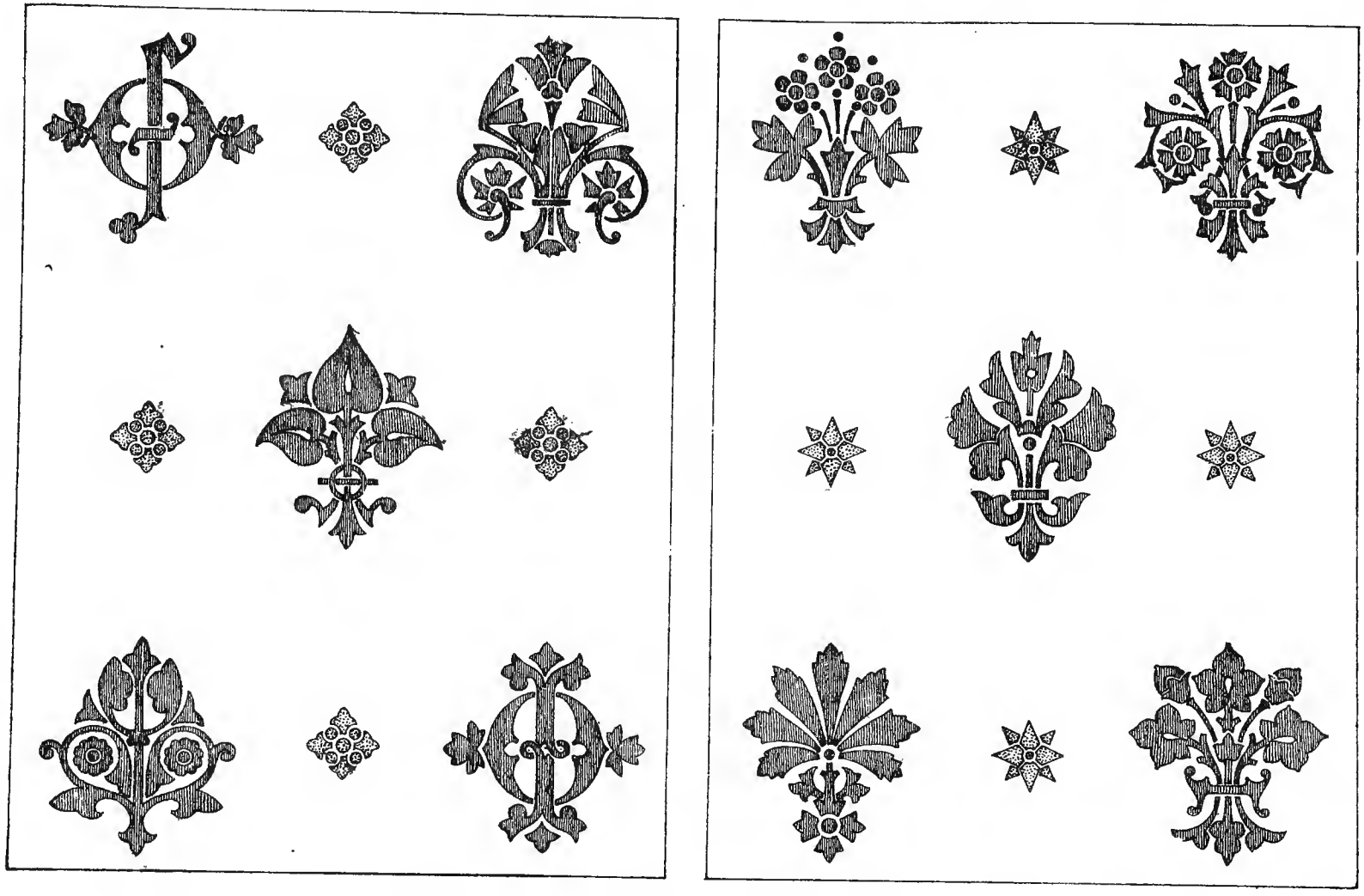
Six examples are given, on Plate 60, for crestings in metal applicable to the ridges of roofs, all of which are adapted from nature. Among other types made use of, are those of the buds of the Ground Ivy and the Geranium, in Nos. 1 and 4. The Poppy, in No. 3: the leaves of the *Adoxa Moschatellina*, in No. 5; and of the Canariensis, in No. 6. The two first examples are perhaps more suited to the pyramidal roofs of towers.

In leaving this part of the subject, I cannot but feel, although the designs have all been based upon natural foliage, how little of that exquisite beauty, which we see in their natural types, I have been able to introduce among them, and what a vast field there still is left untouched and untrodden. It is, however, confidently hoped that some portions of nature have been successfully translated, and that her principles have been sufficiently explained, to shew that they are the only sure guides for the proper study and advancement of art. Upon running over the various Plates, I was surprised to find

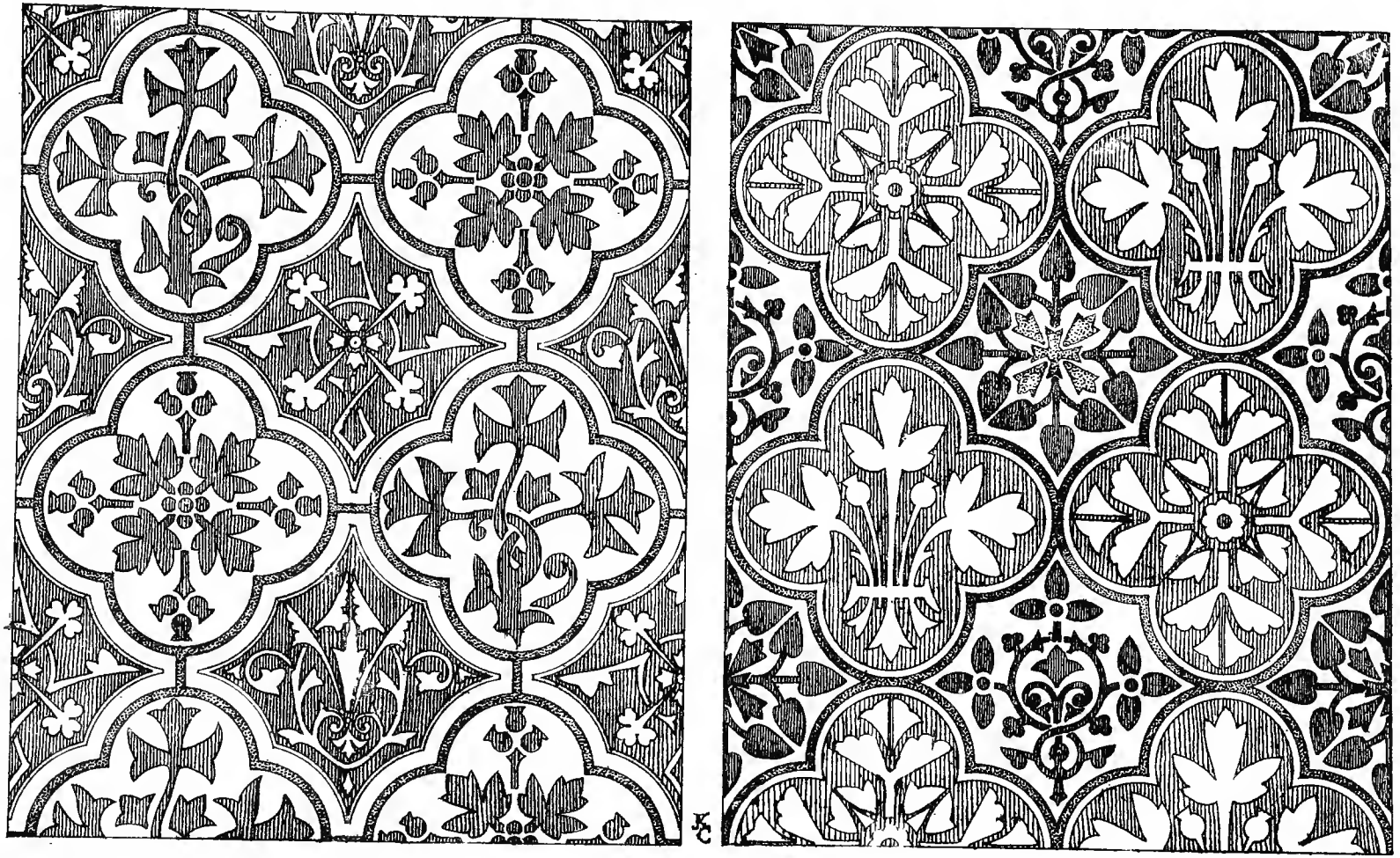
* *See Ancient Domestic Architecture*, by J. H. PARKER, F. S. A.

that there are upwards of one hundred and twenty different species of plants, which have been used in the composition, and in some way have lent their forms and feeling to the designs — notwithstanding which, I find many more which I have been obliged to neglect. The Acanthus and Laurel may strike the Classic mind as having been slighted, and the Gothic student may find a lack of Oak and Vine, but the true intent has been to give the less known types of foliage, and to steer as centrally as possible between orders and styles, with nature as the only guide.

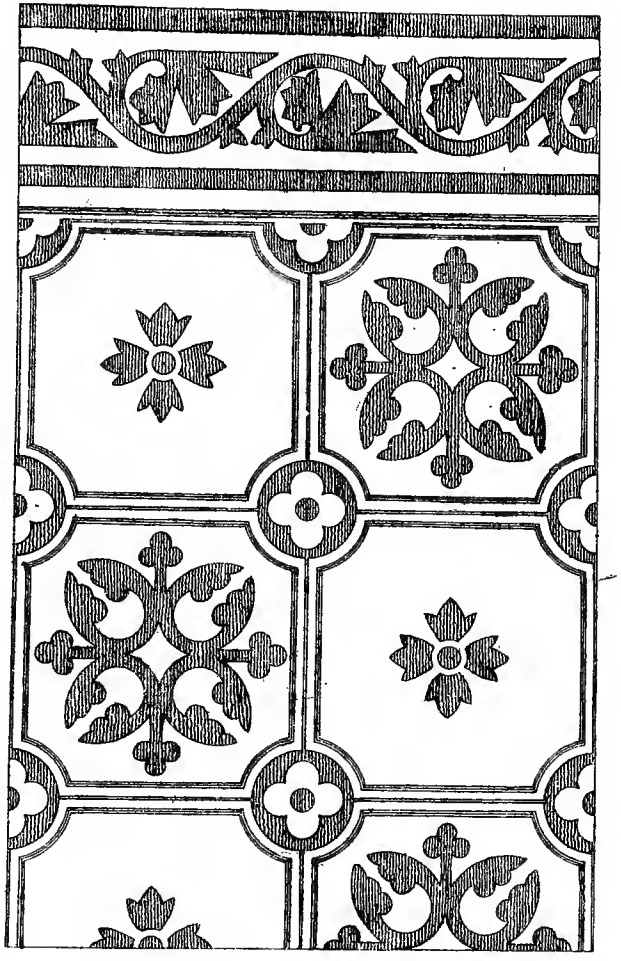
END OF PART II.

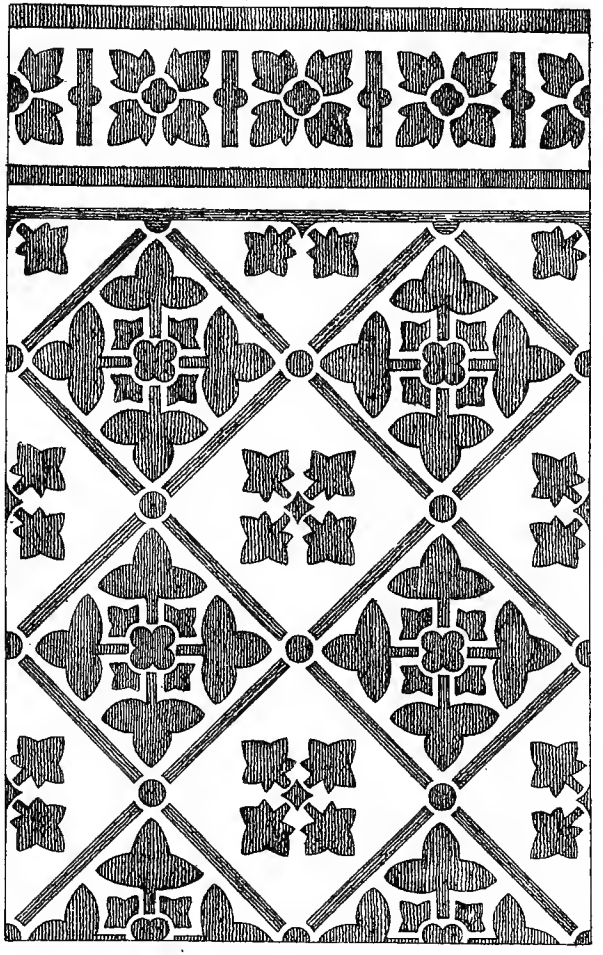


WALL DIAPERS FOR STENCILLING.

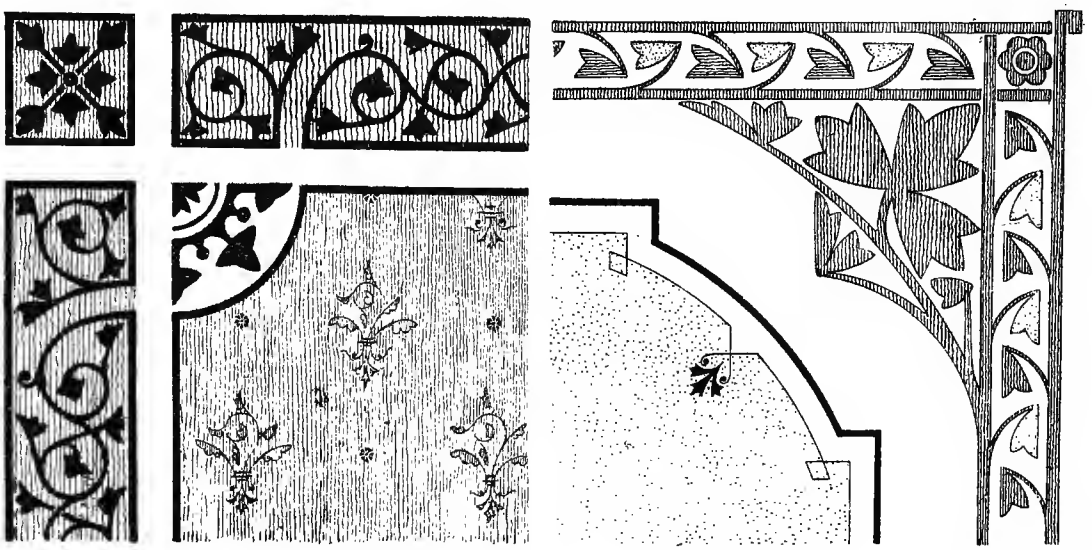


PAPER HANGINGS OR WOVEN FABRICS.





PAINTED WALL DIAPERS



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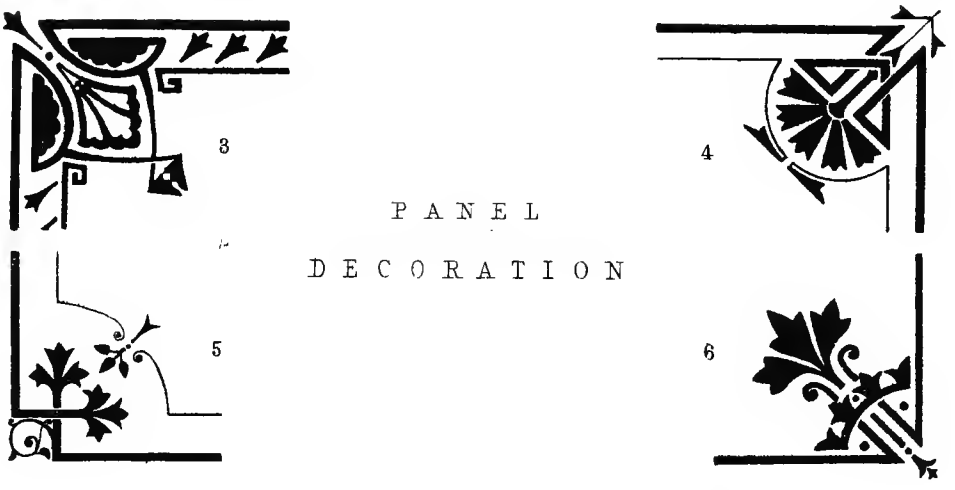


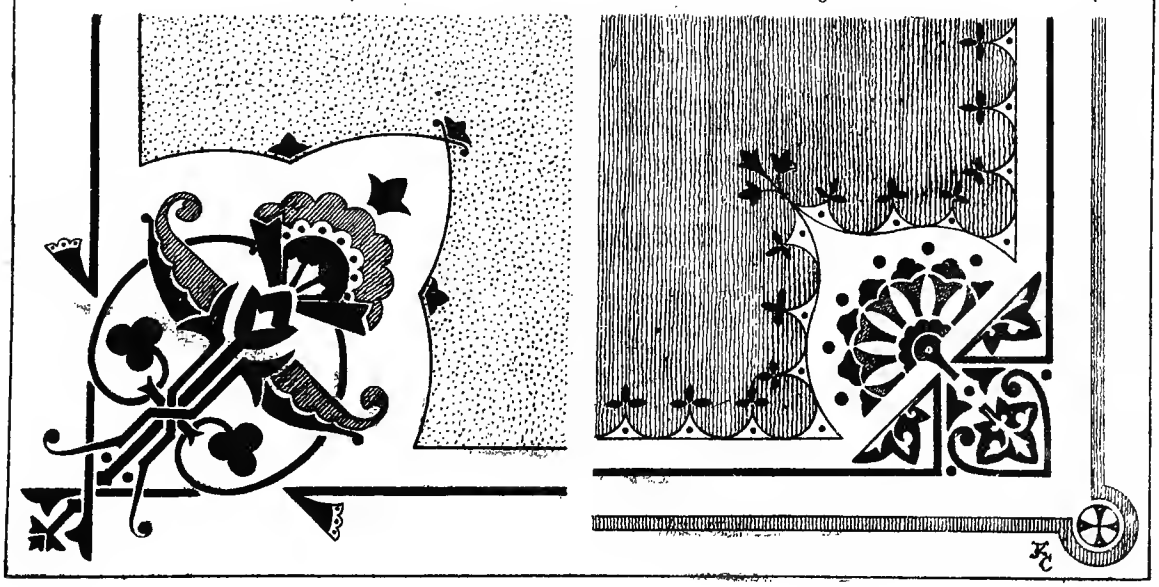
3 4

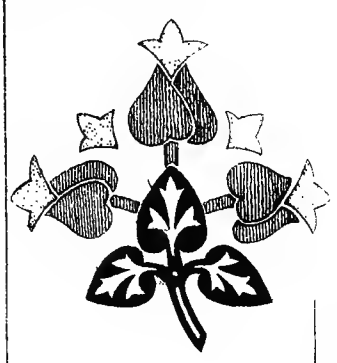
PANEL

DECORATION

5 6

7 8





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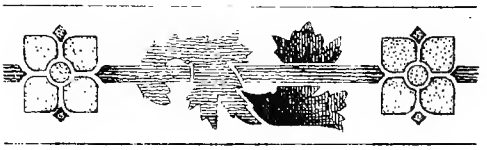

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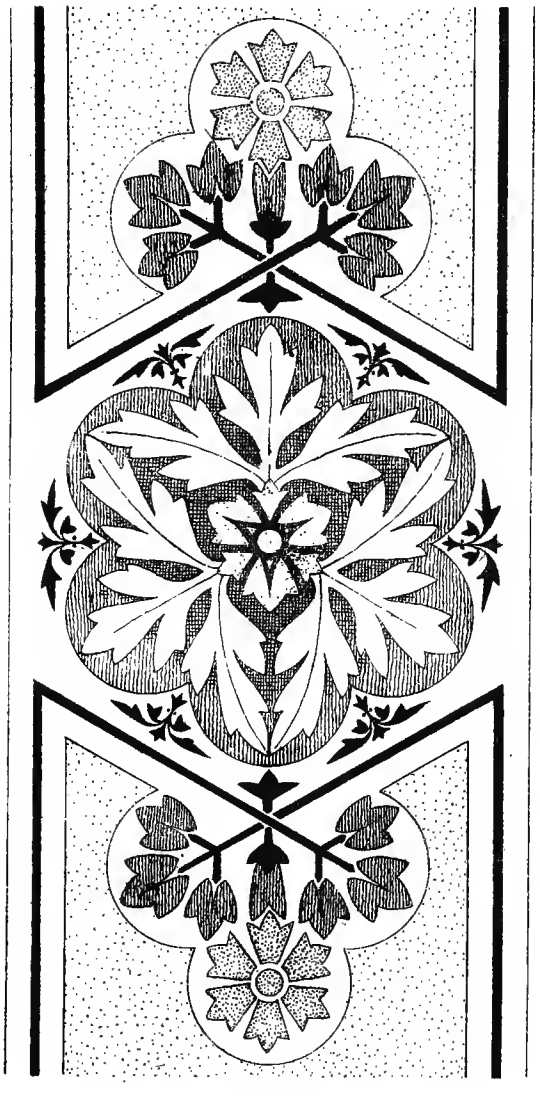

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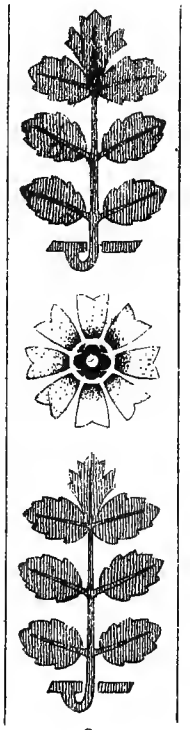

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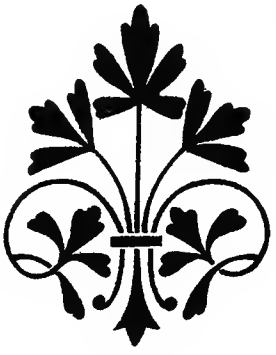
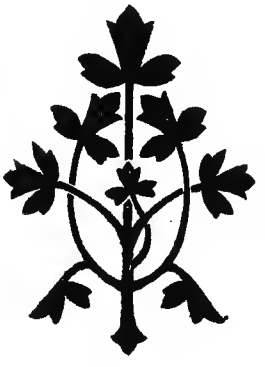


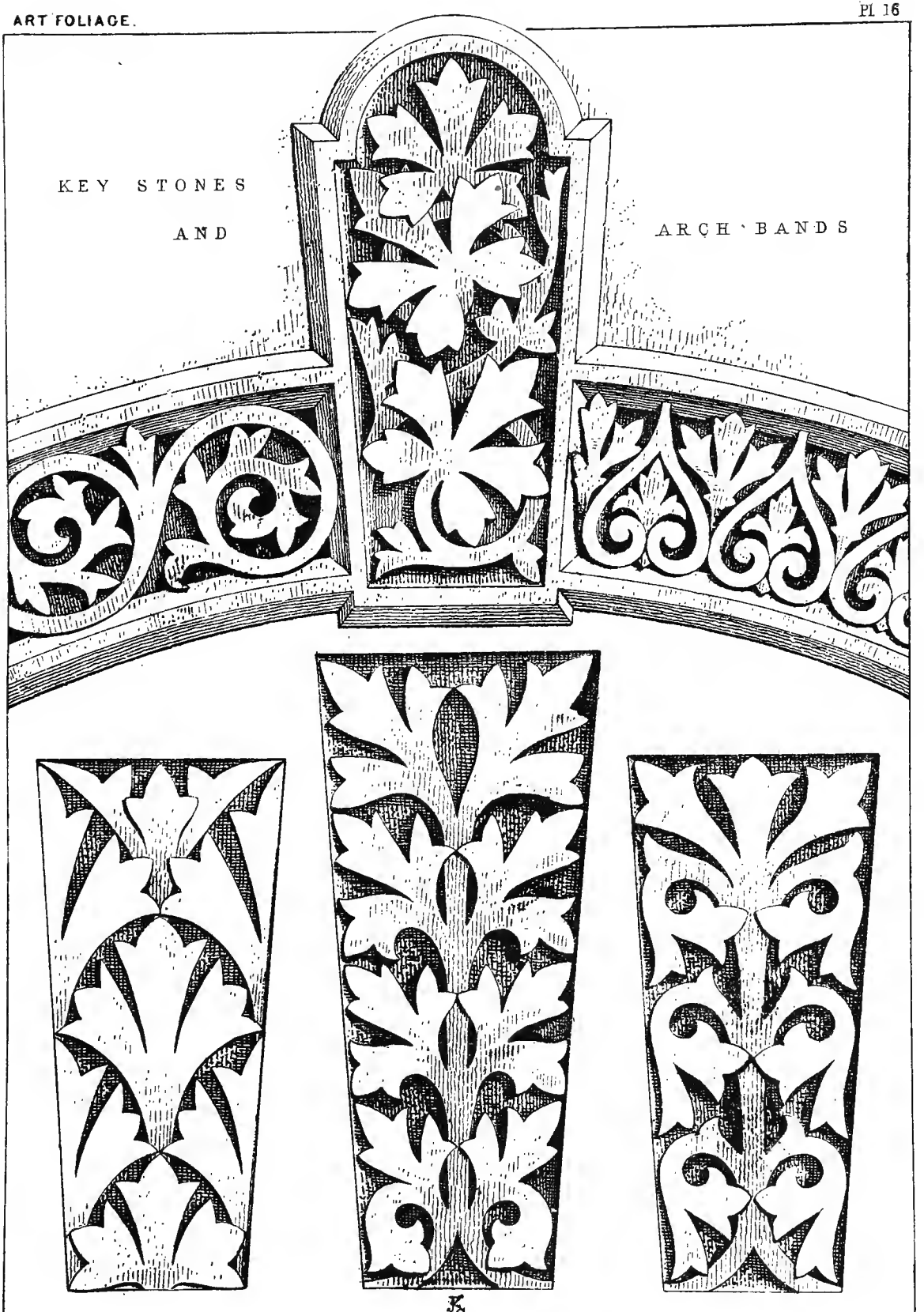
7

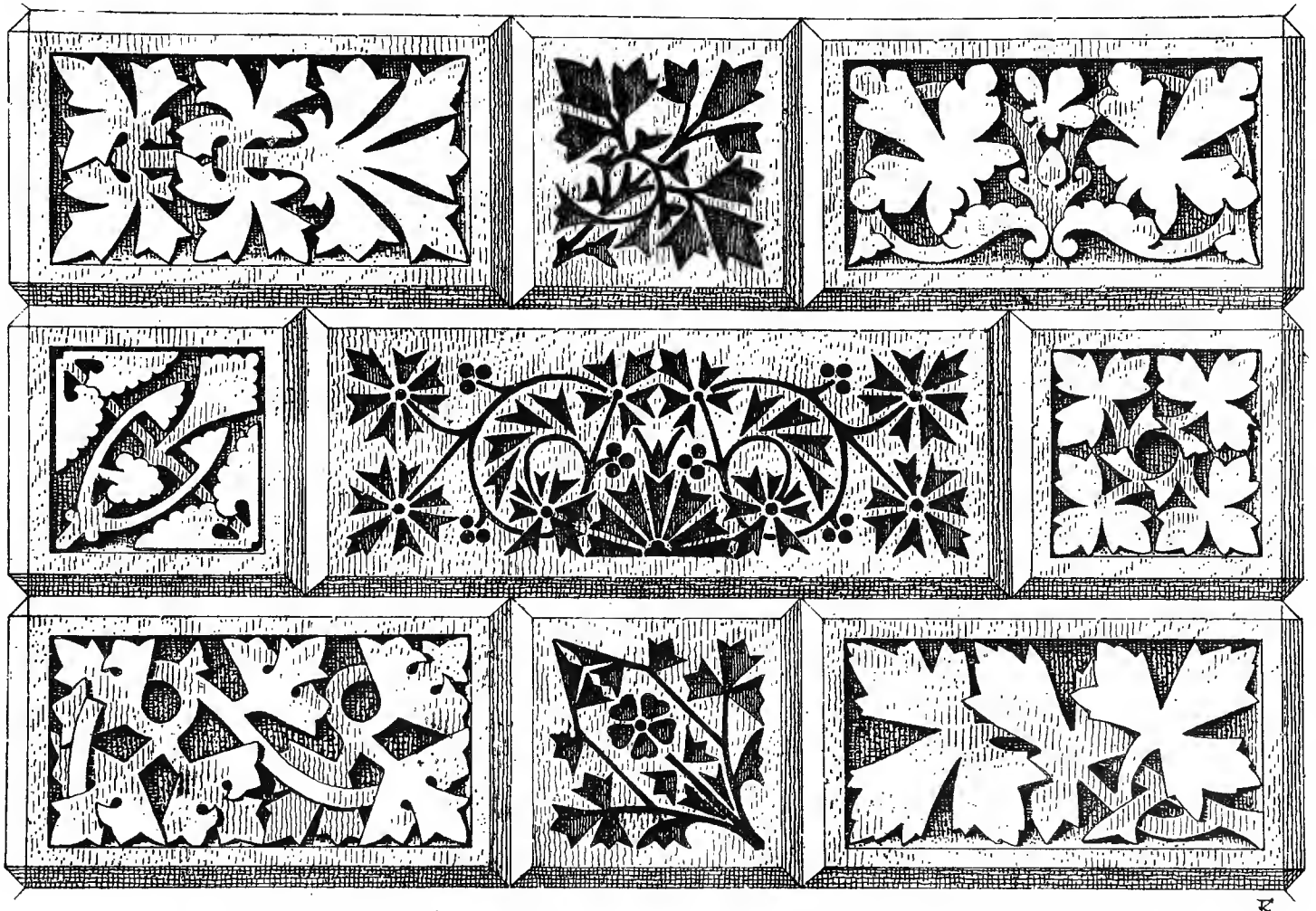
PAINTED DECORATION.



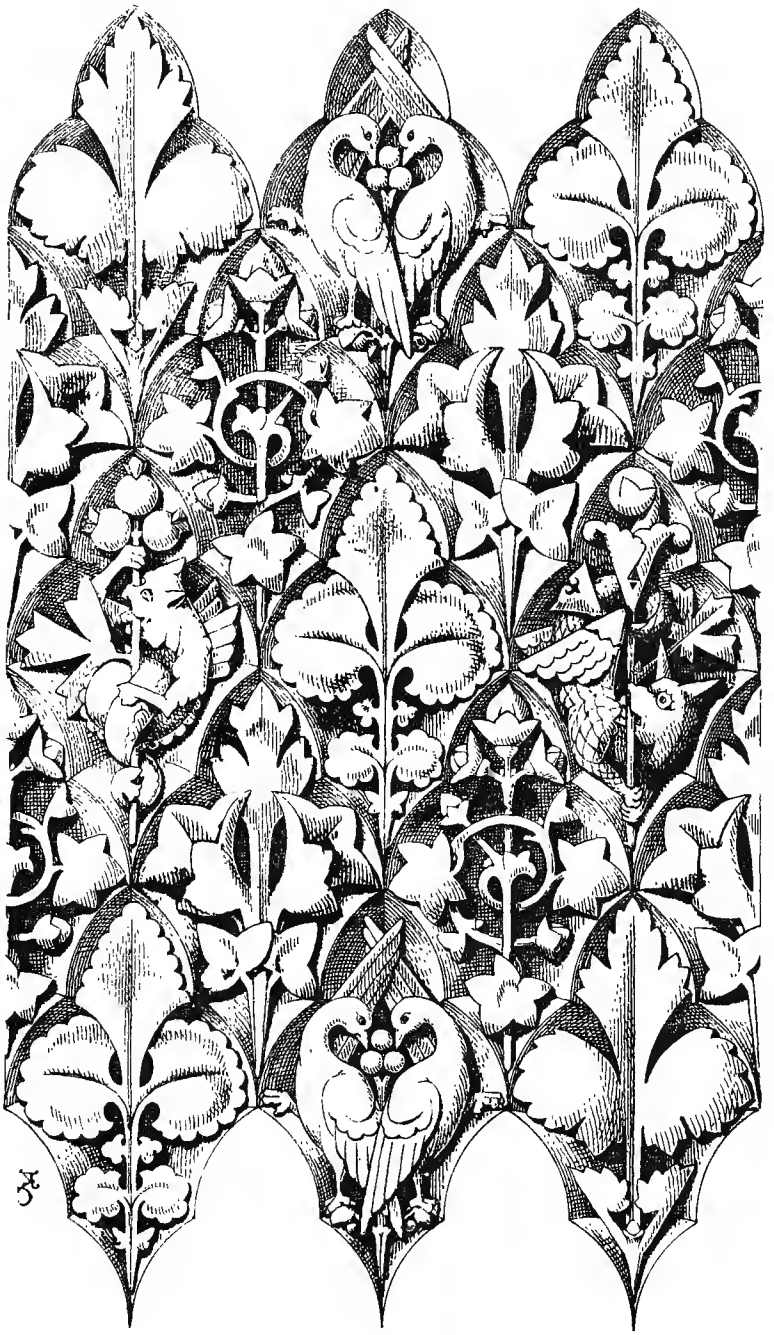
8

KEY STONES AND ARCH BANDS



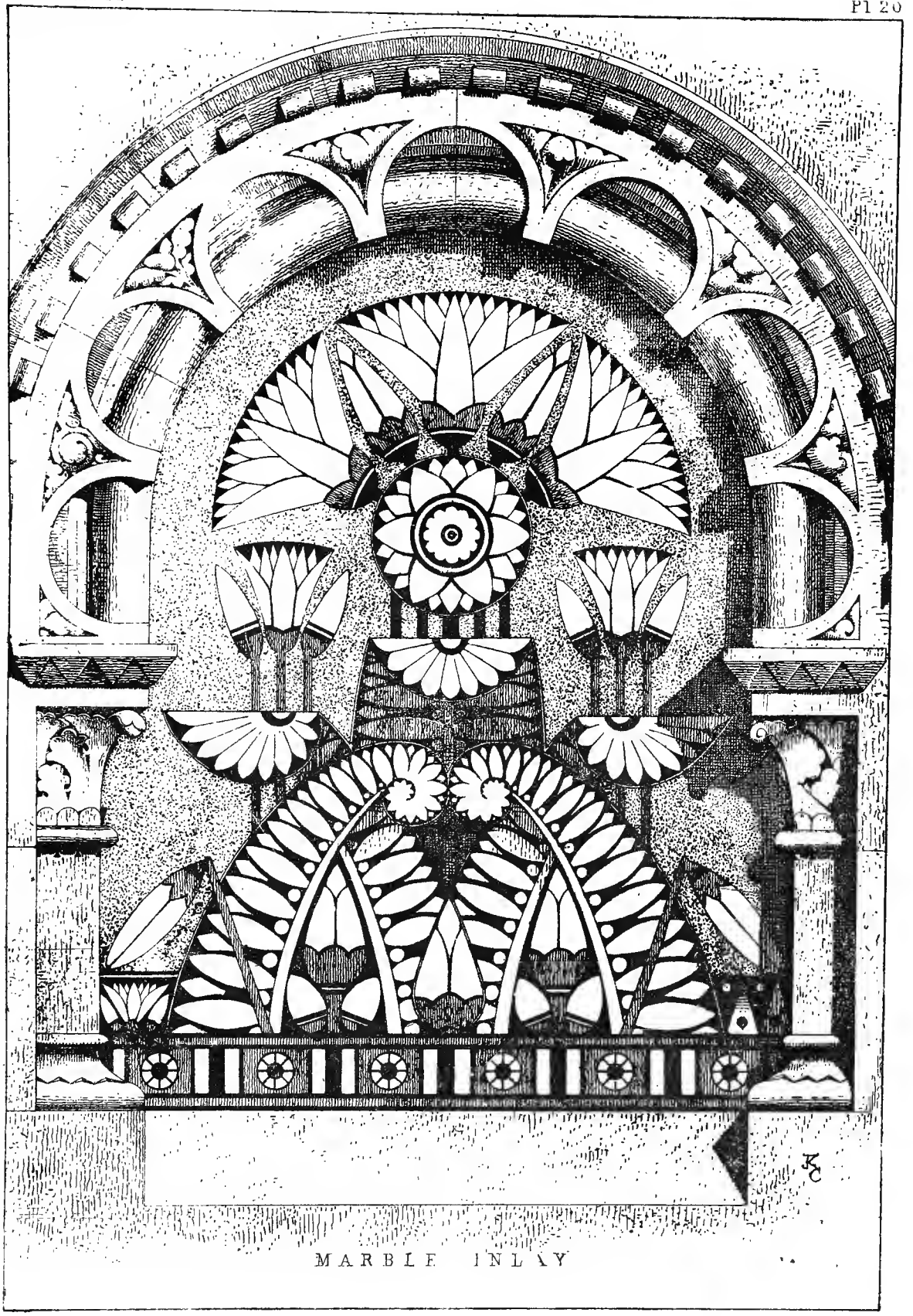


STONE QUOINS AND RUSTIC WORK.



CARVED DIAPERS

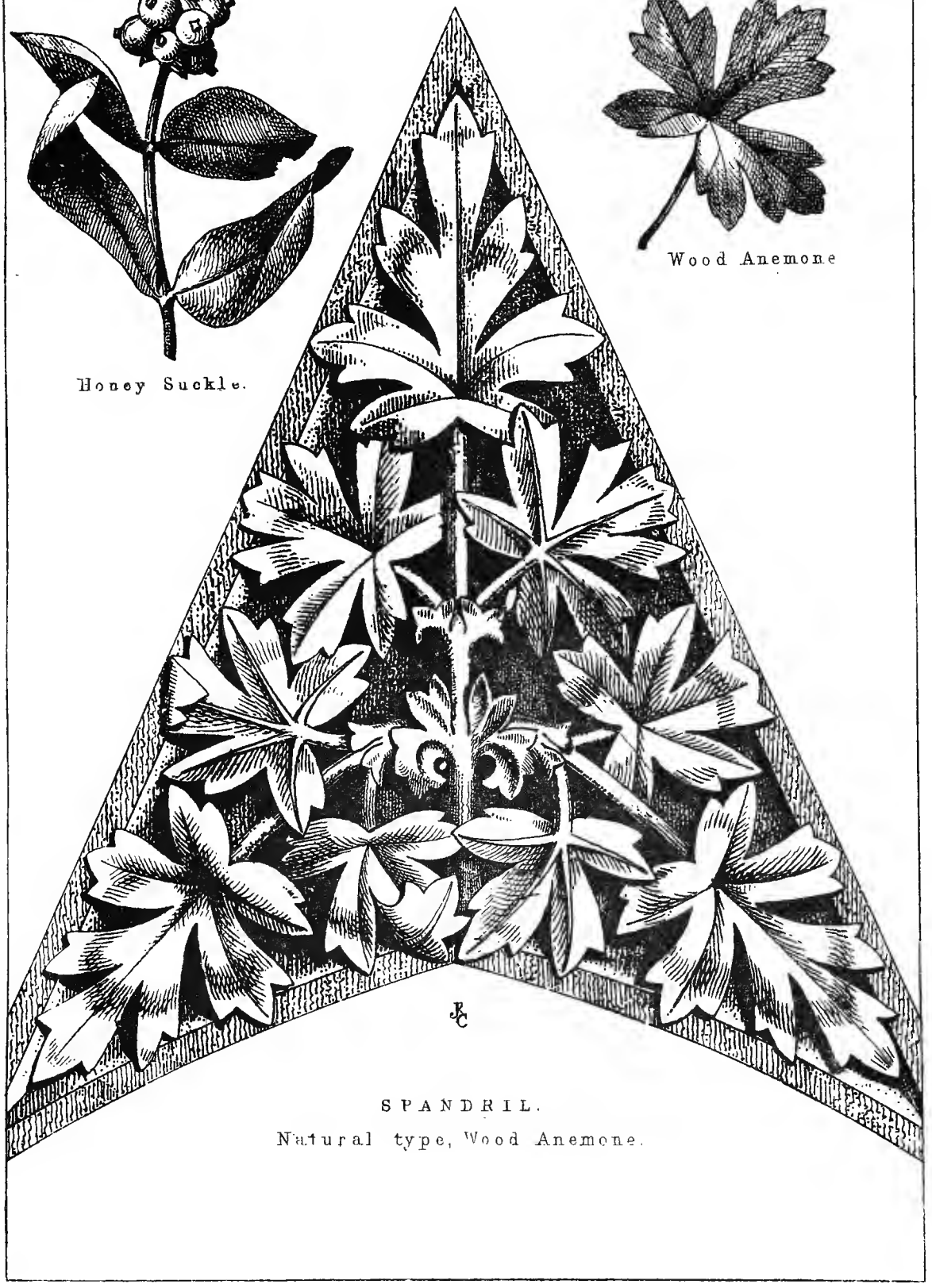
MARBLE INLAY.



MARBLE INLAY

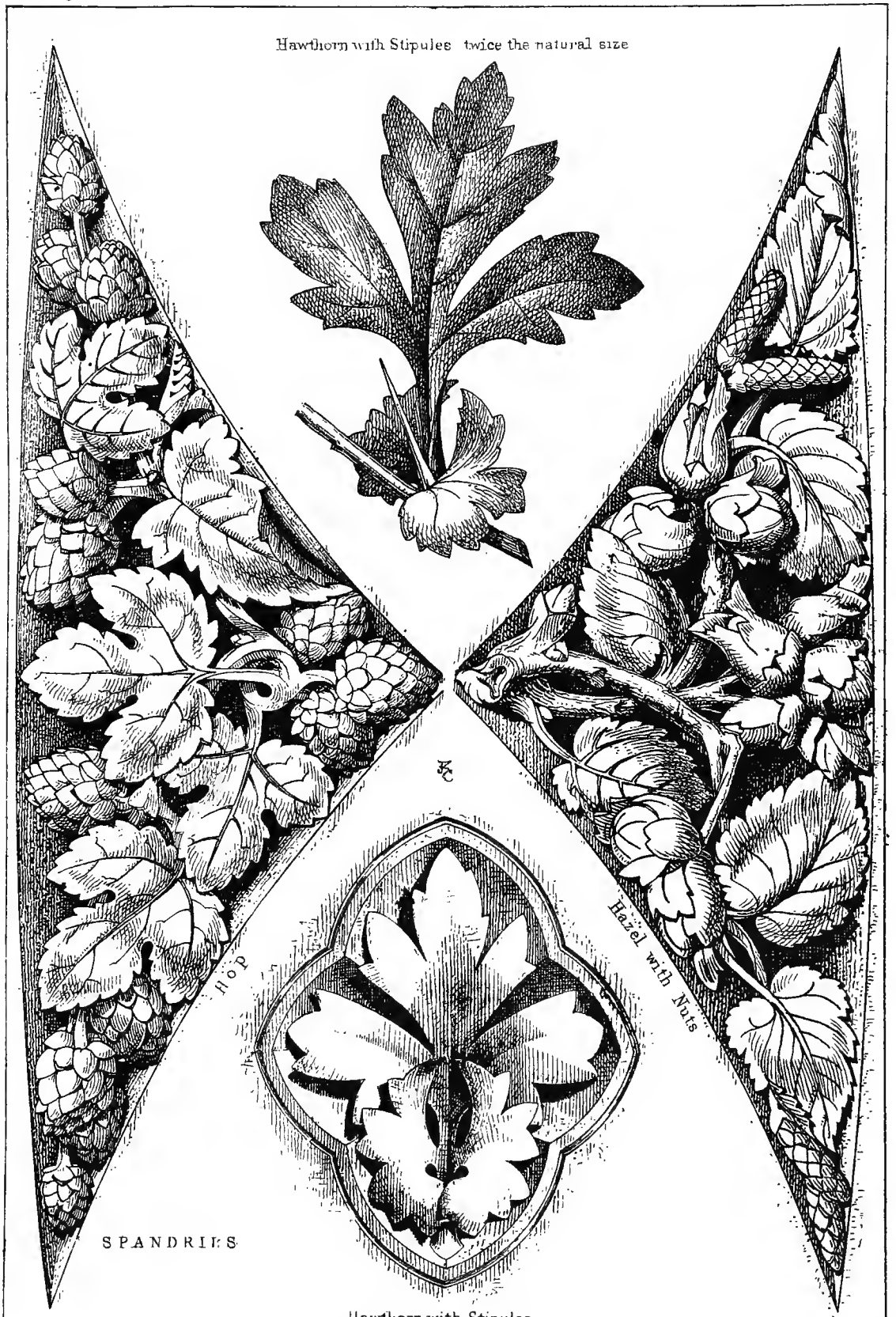
Honey Suckle.

Wood Anemone

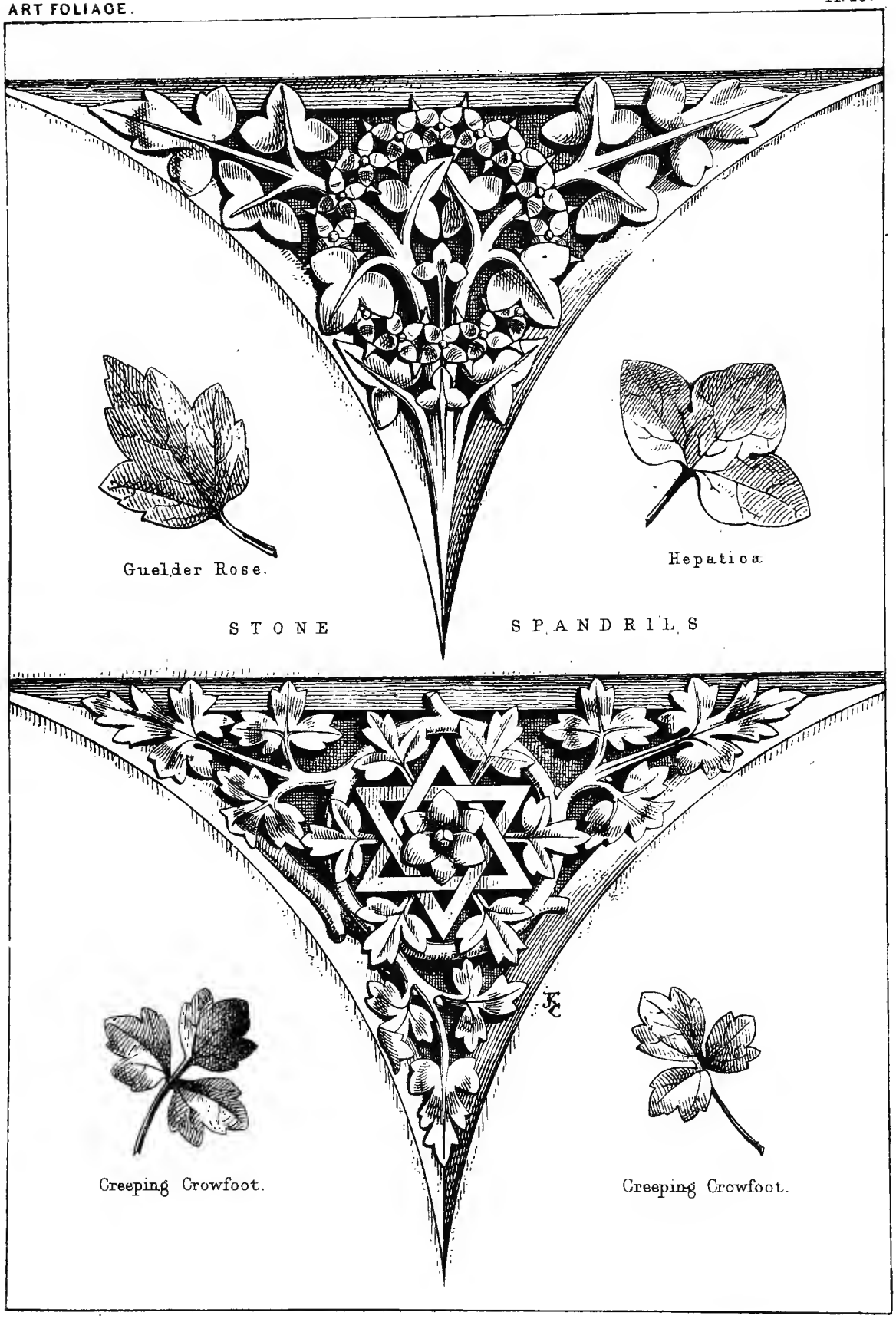


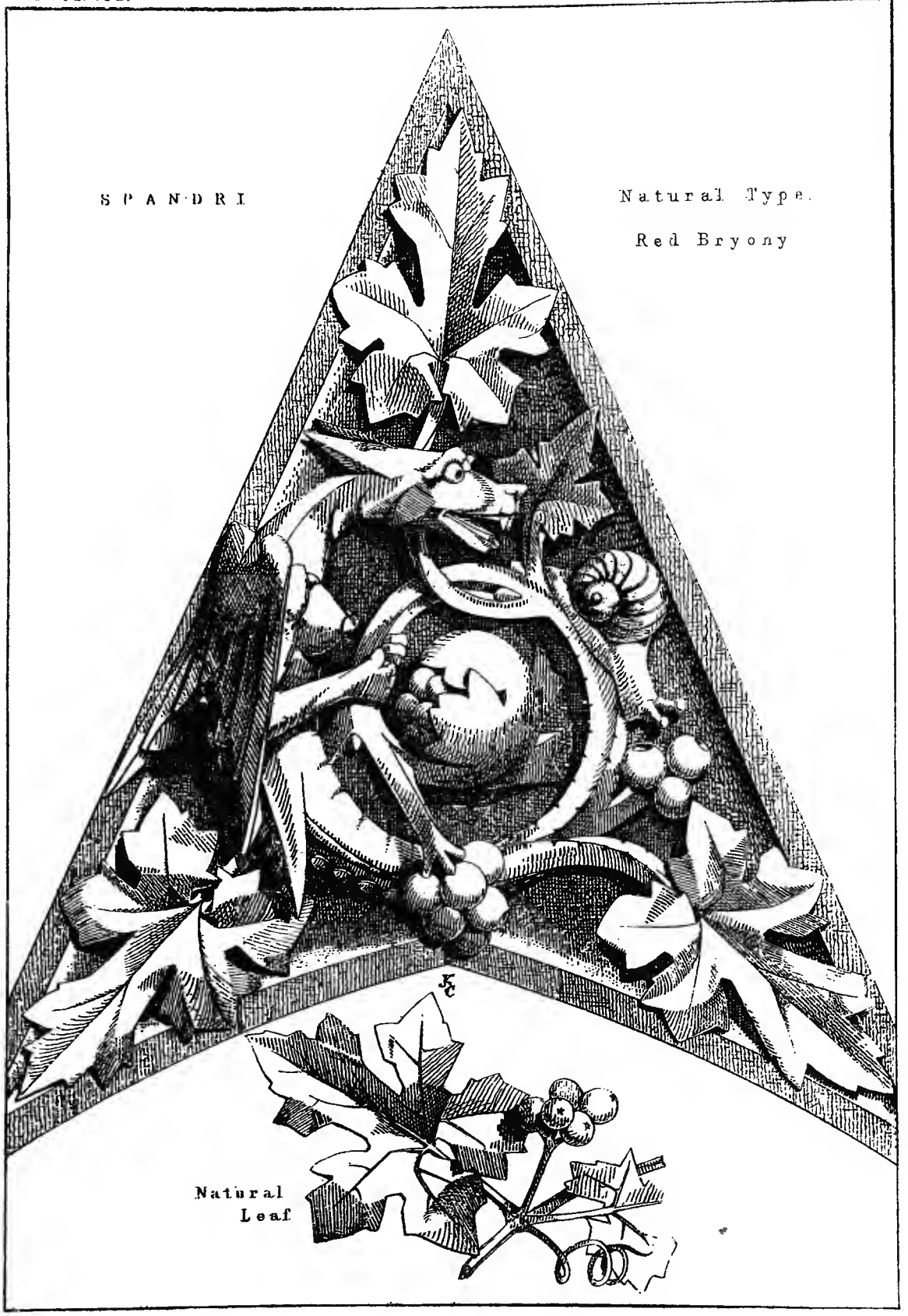
SPANDRIL.

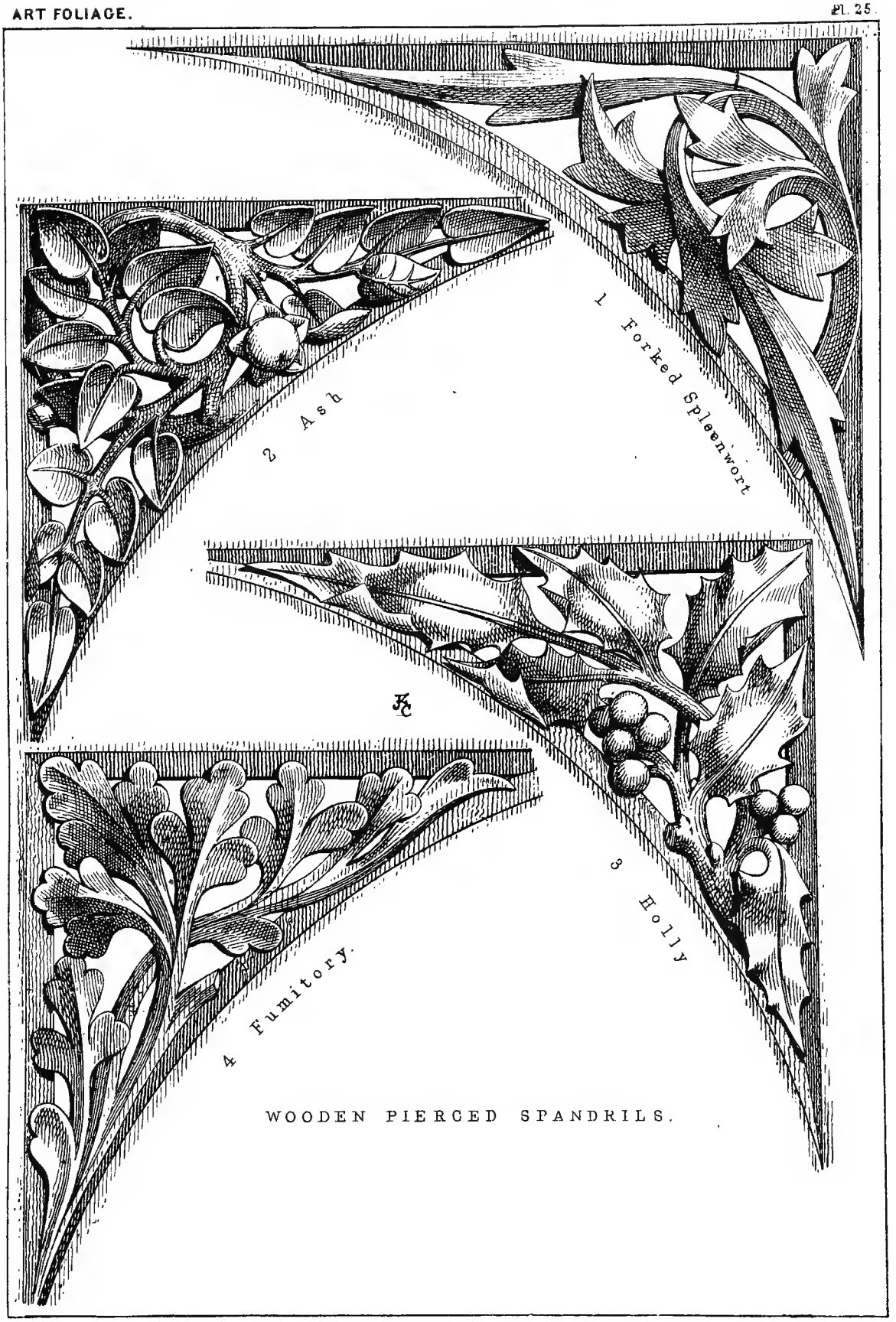
Natural type, Wood Anemone.



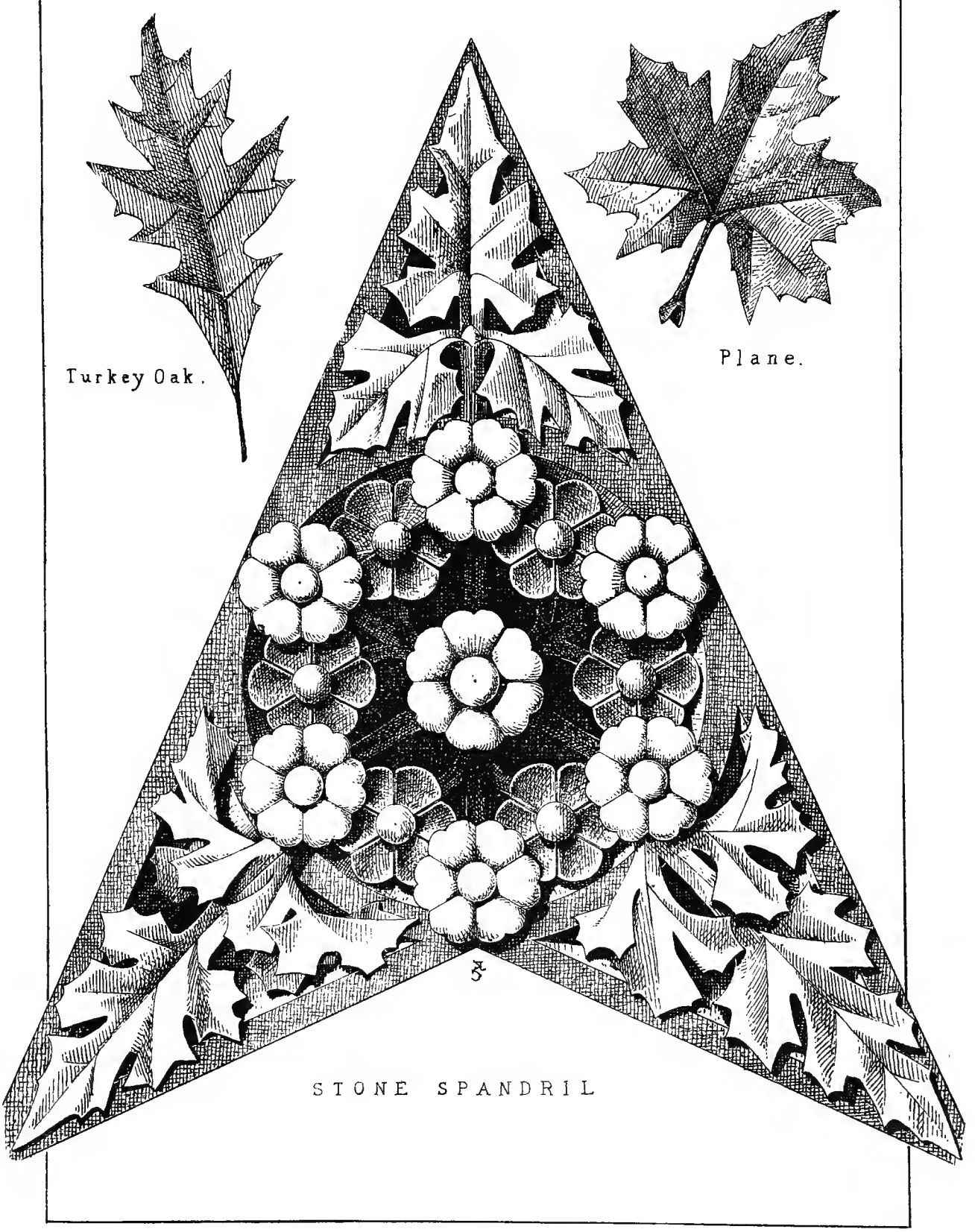
Hawthorn with Stipules.


Guelder Rose.
Hepatica
STONE
SPANDRILS
Creeping Crowfoot.
Creeping Crowfoot.

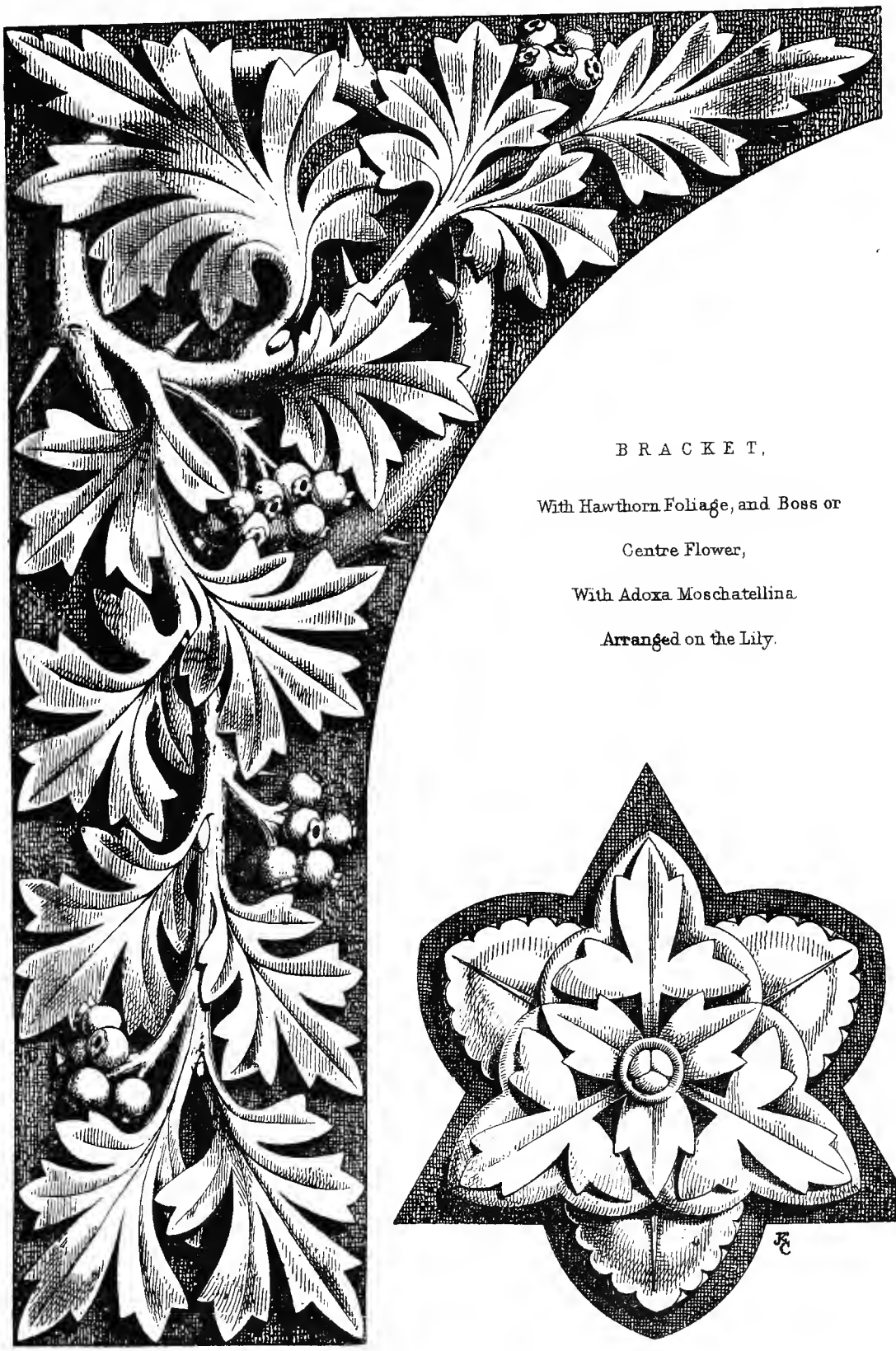

SPANDRI
Natural Type.
Red Bryony
Natural
Leaf



WOODEN PIERCED SPANDRILS.



STONE SPANDRIL



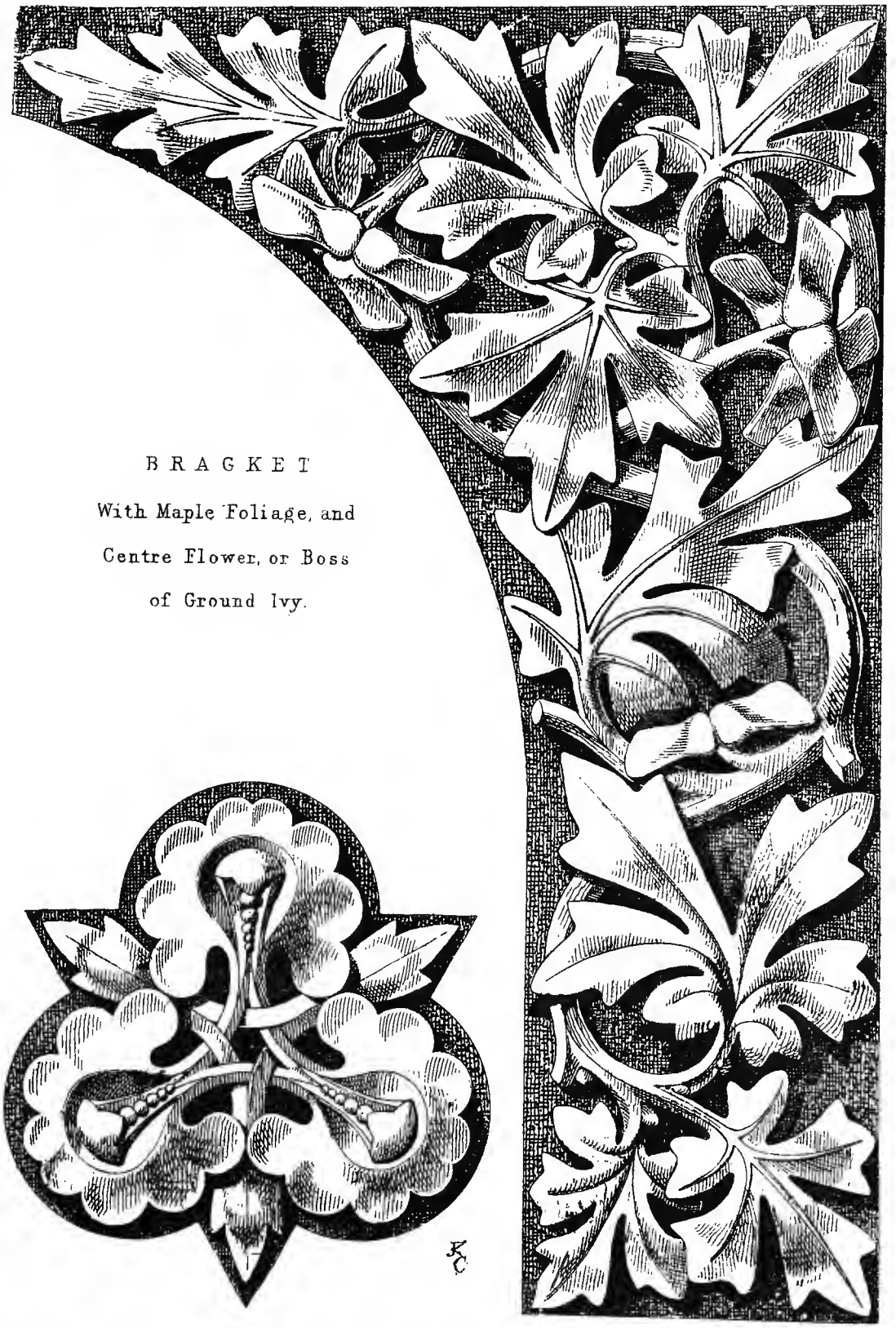
BRACKET,

With Hawthorn Foliage, and Boss or

Centre Flower,

With Adoxa Moschatellina

Arranged on the Lily.



BRACKET

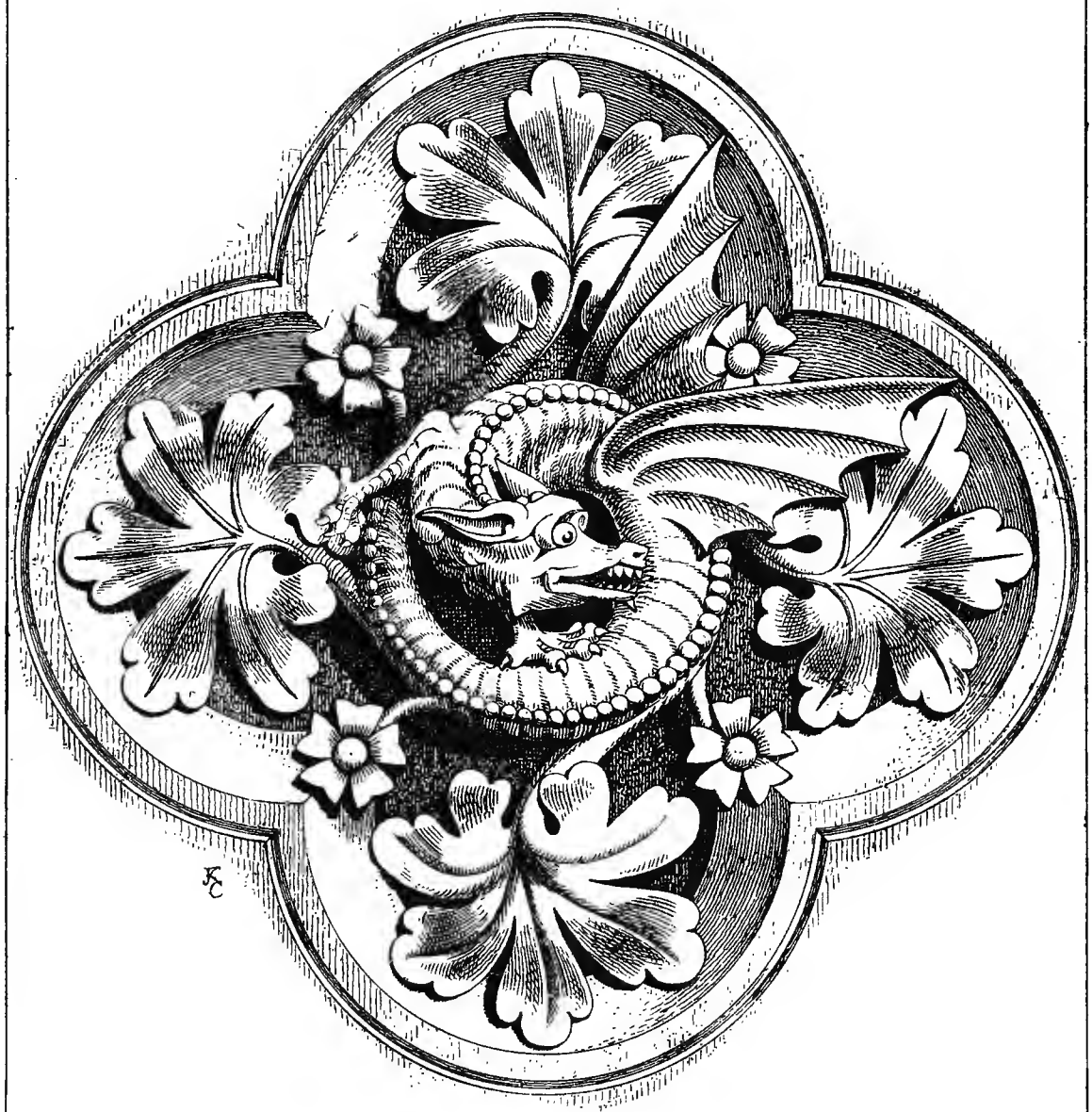
With Maple Foliage, and

Centre Flower, or Boss

of Ground Ivy.

STONE PANEL.

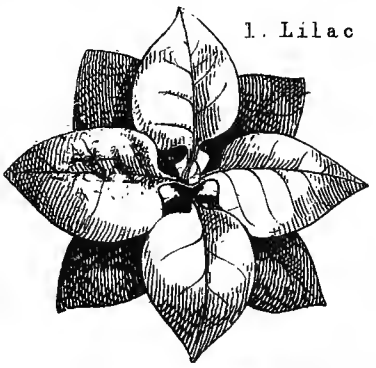
Oak



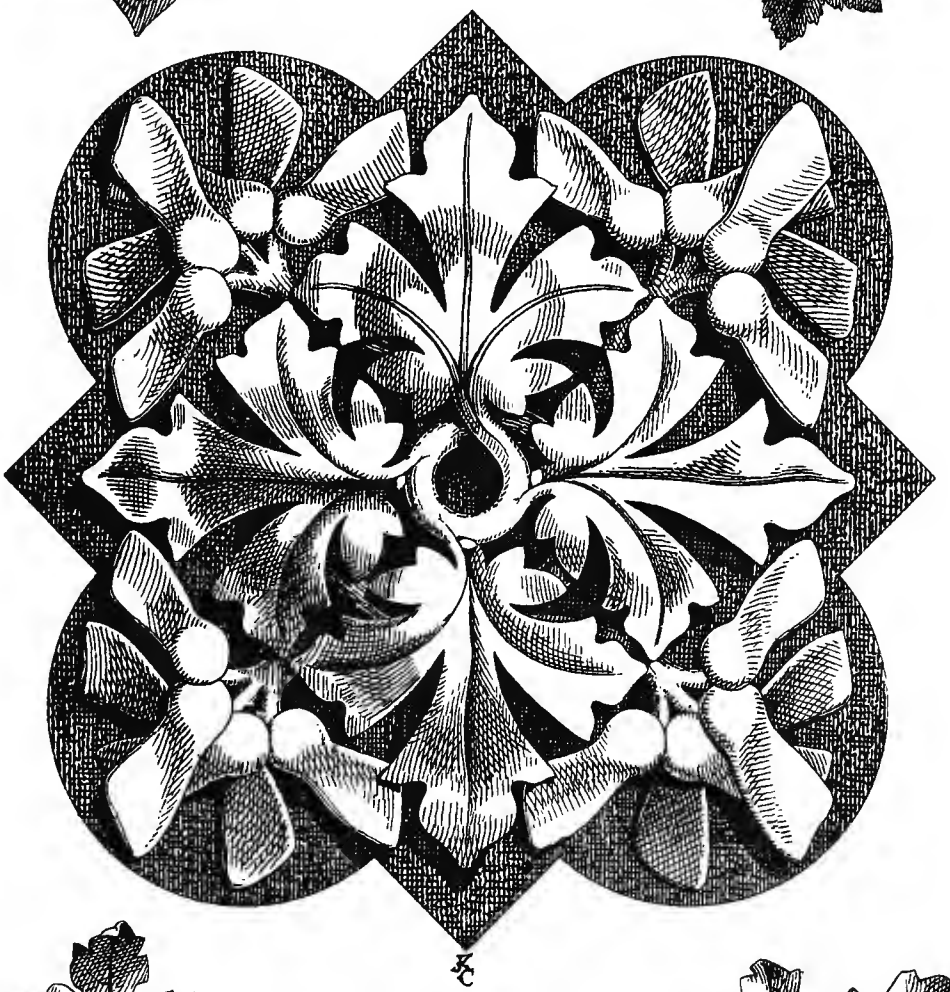
STONE PANEL.

Natural type of foliage Dove's foot Cranesbill.

1. Lilac



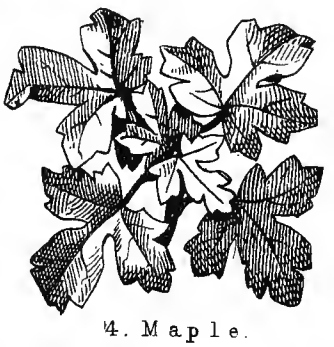
2. Sycamore



PANEL OR BOSS.

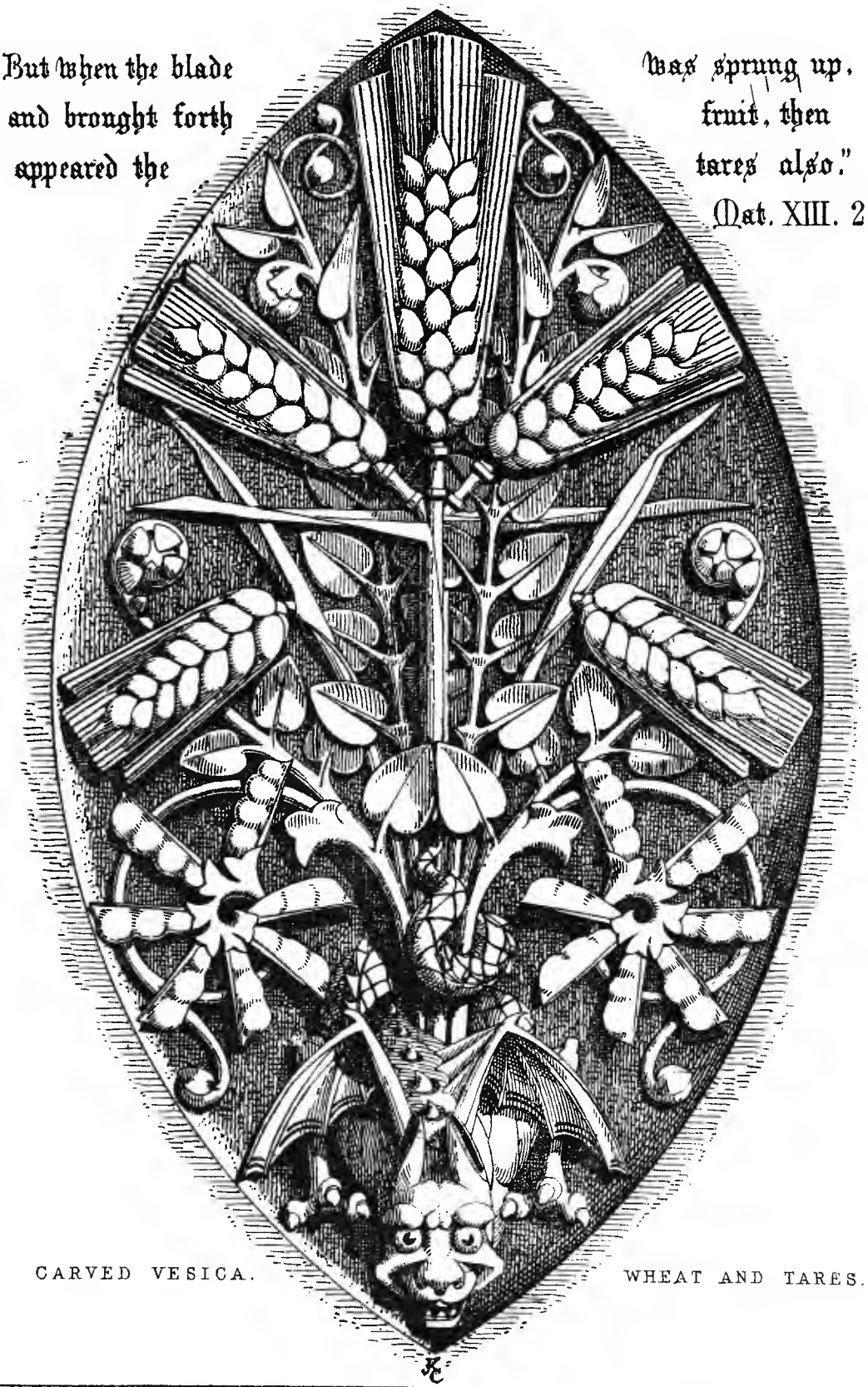
Maple.

3. Maple

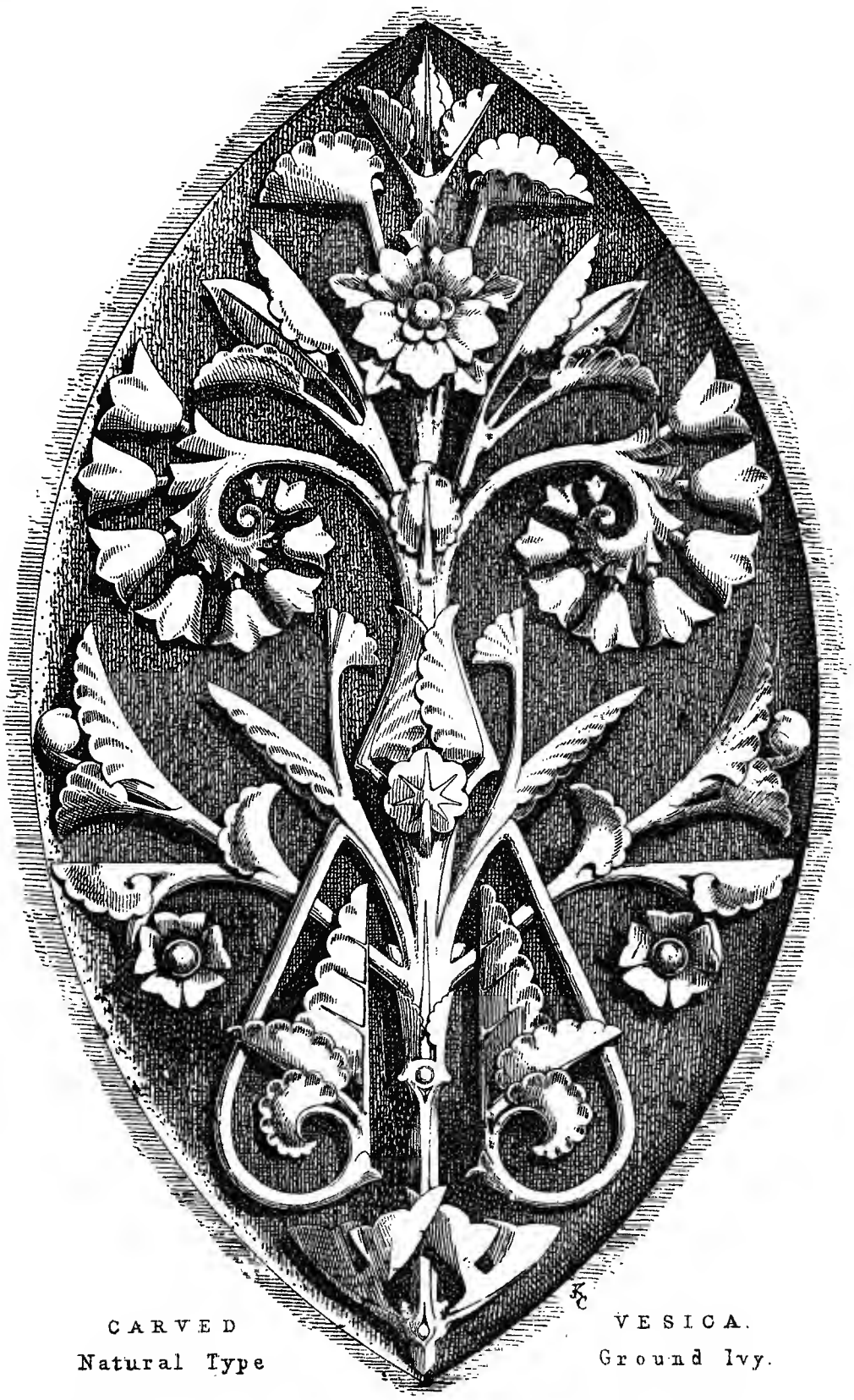


4. Maple.

"But when the blade was sprung up,
and brought forth fruit, then
appeared the tares also."
Mat. XIII. 26.

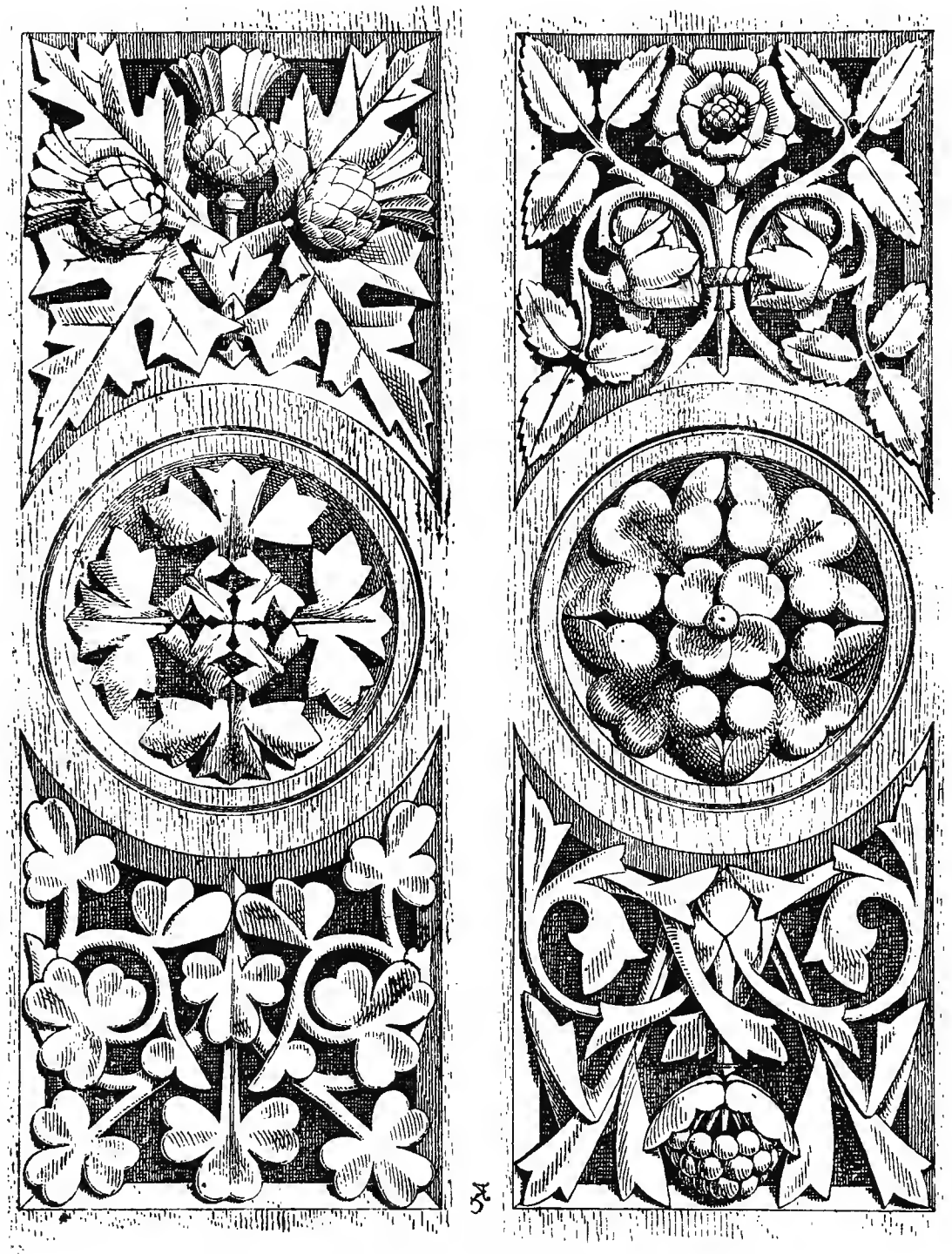


CARVED VESICA. WHEAT AND TARES.

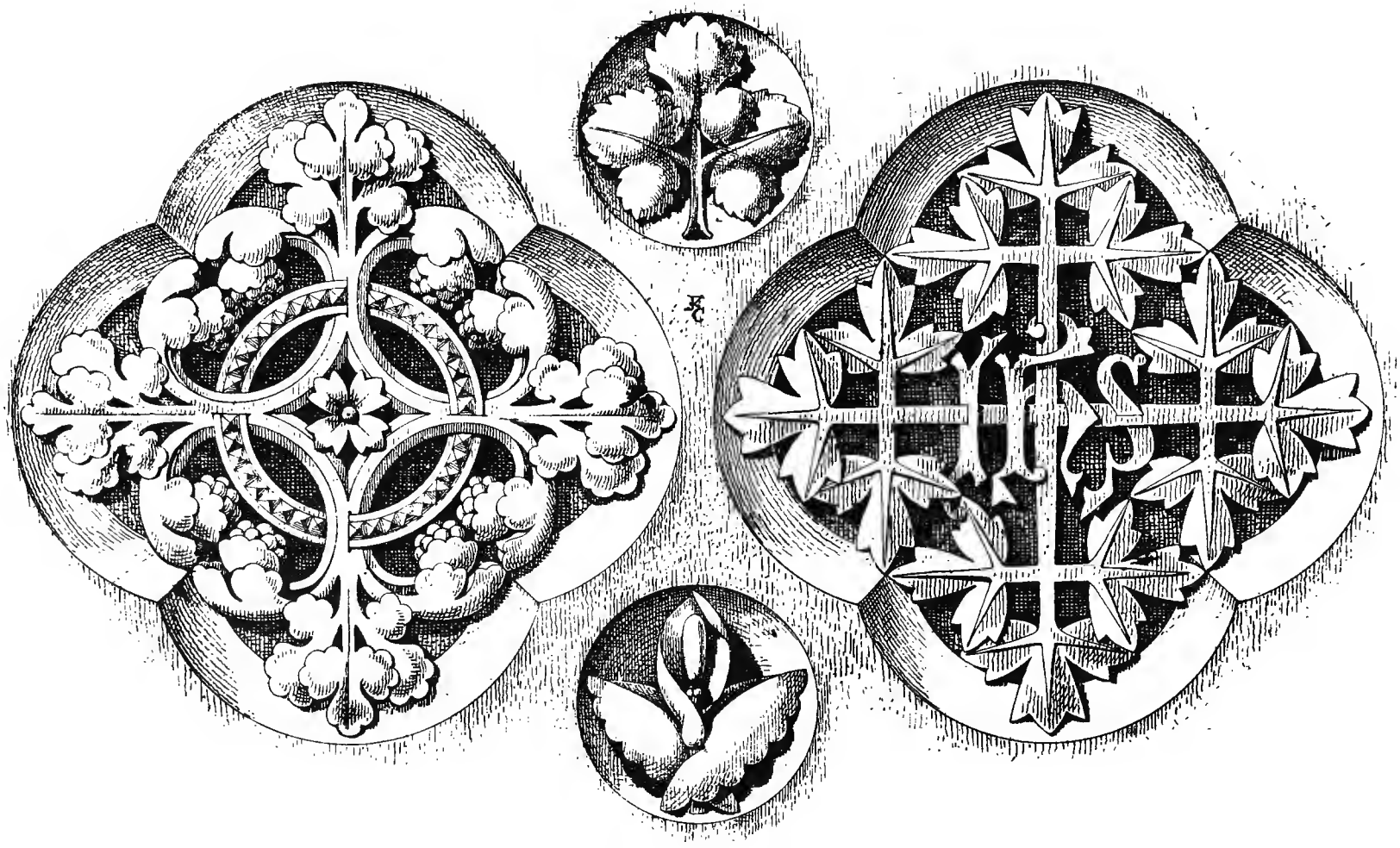


CARVED VESICA.

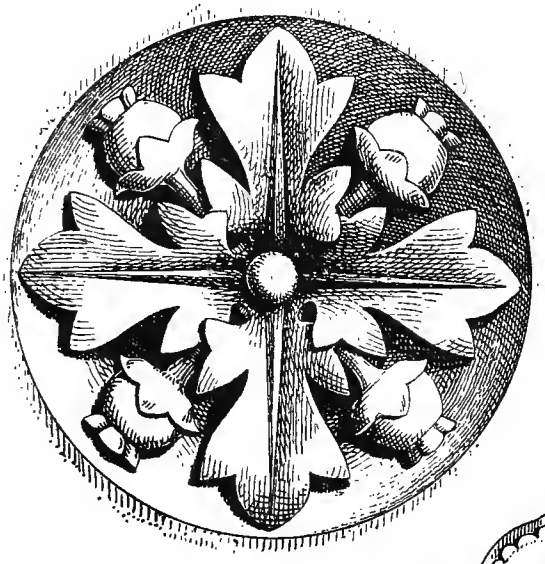
Natural Type Ground Ivy.



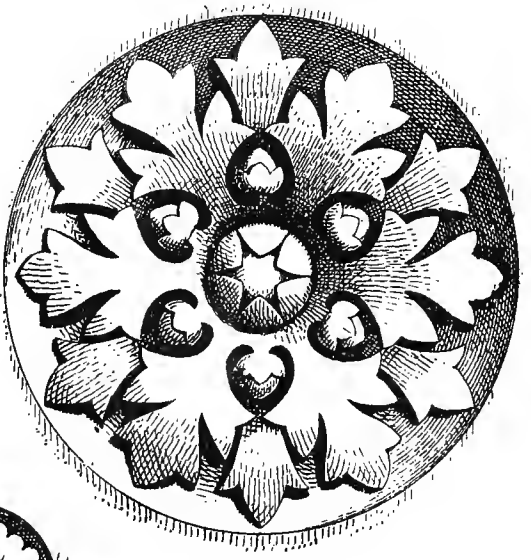
CABINET DOORS WITH NATIONAL EMBLEMS



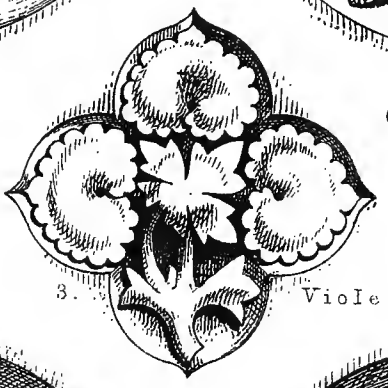
CROSSES, &c.



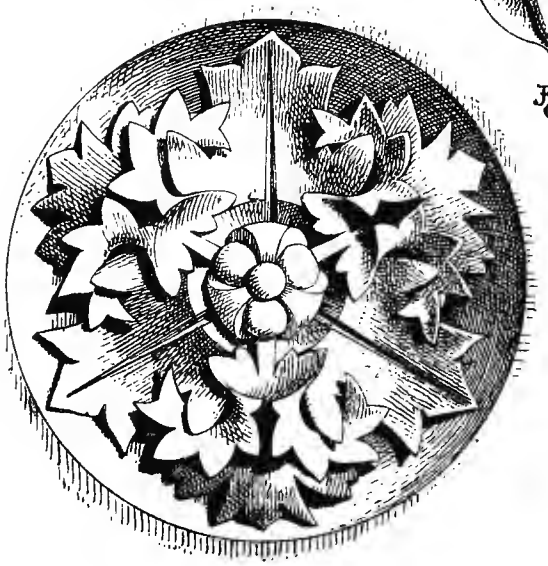
1.
Hawthorn.



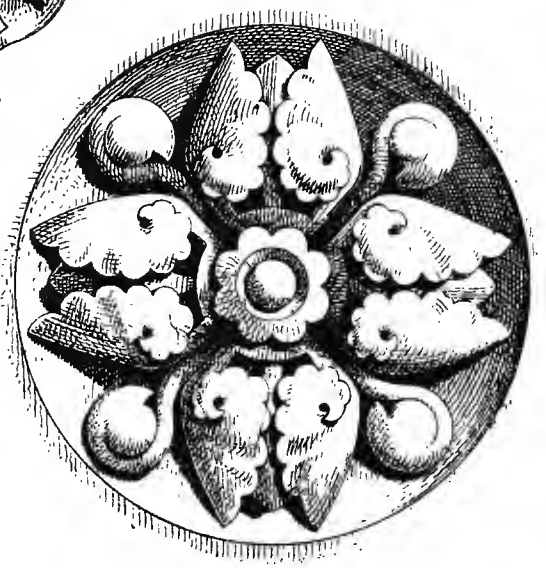
2.
Crowfoot.



3. Violet

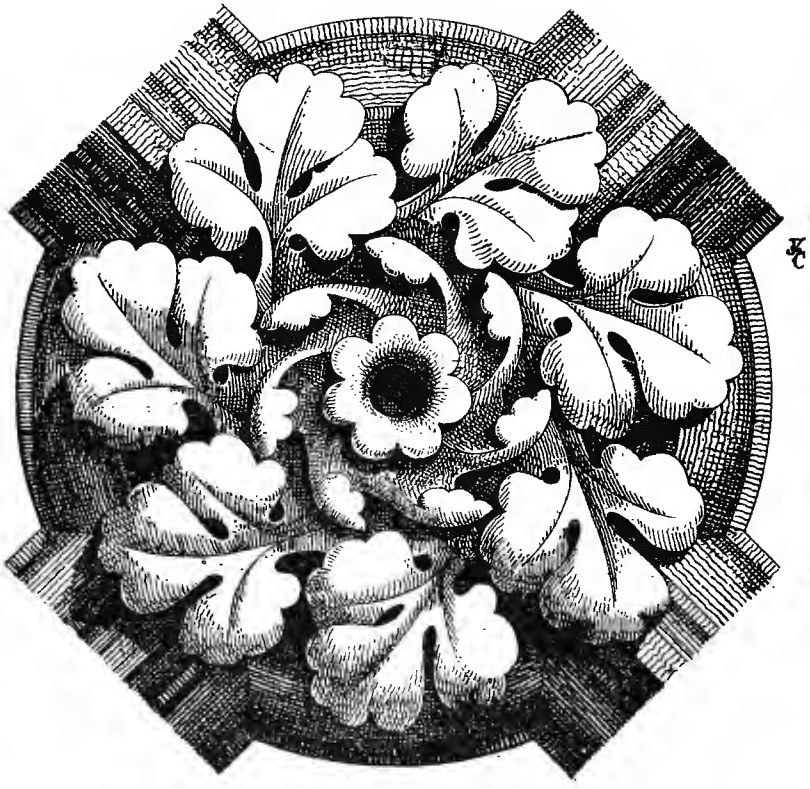


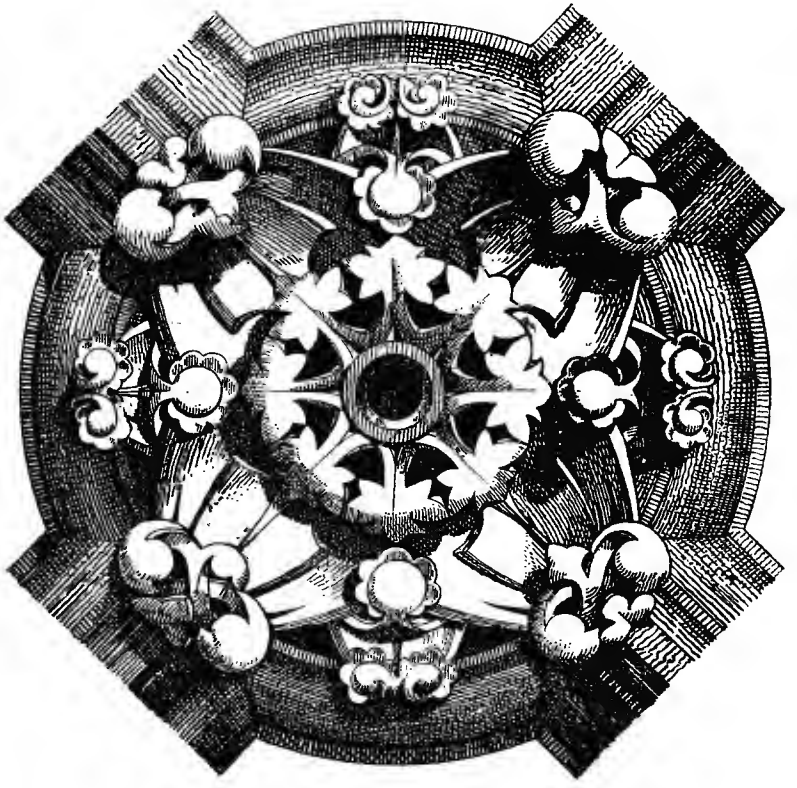
4.
Sea holly.



5
Ground Ivy.

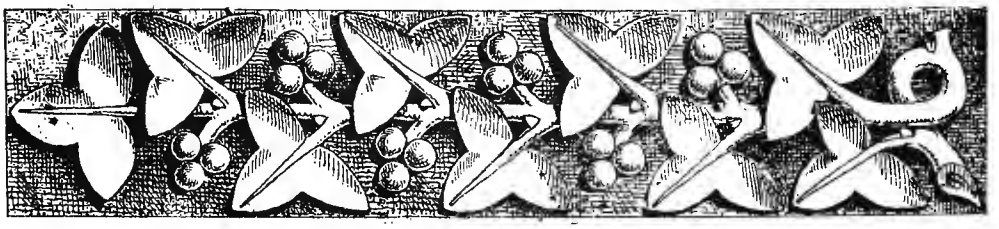
BOSSES OR CENTRE FLOWERS.



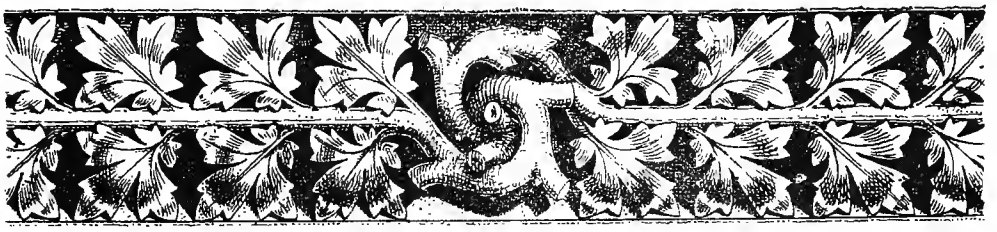


Columbine. BOSSES Ivy.

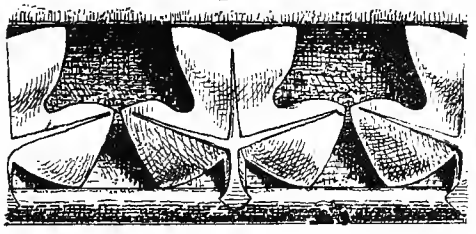
Hepatica. 1



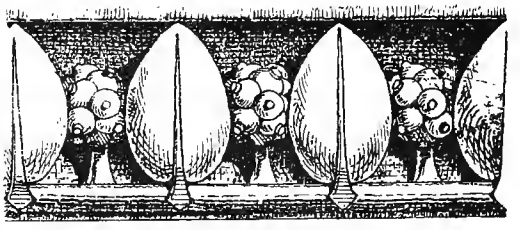
Maple. 2.



Tulip Tree. 4



Honey Suckle. 3.



Young Fern. 5.

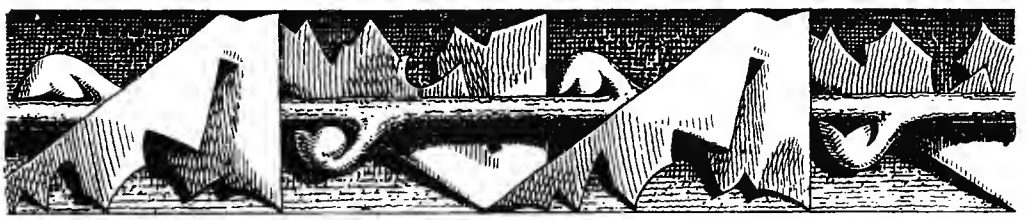
Bind weed. 6.

1. Celery-leaved Crowfoot

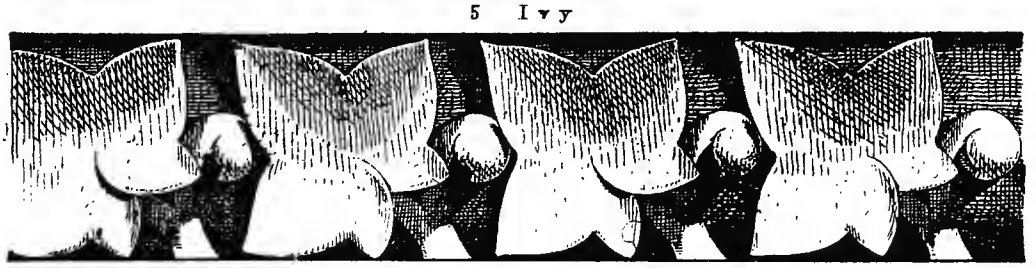
2. Rose.

3. Avens.

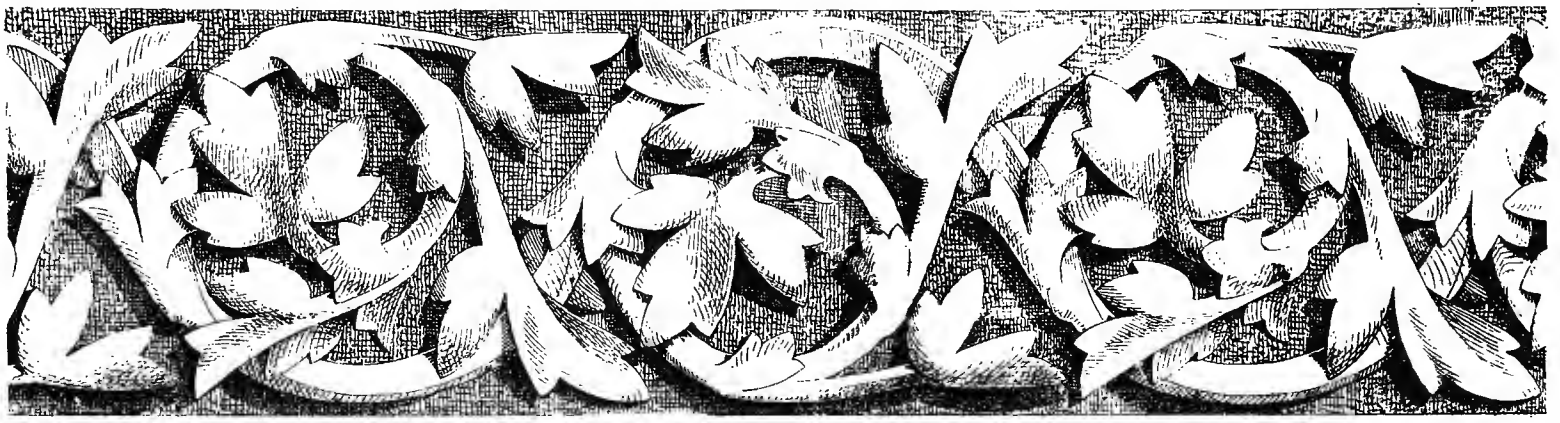
4. Thistle.

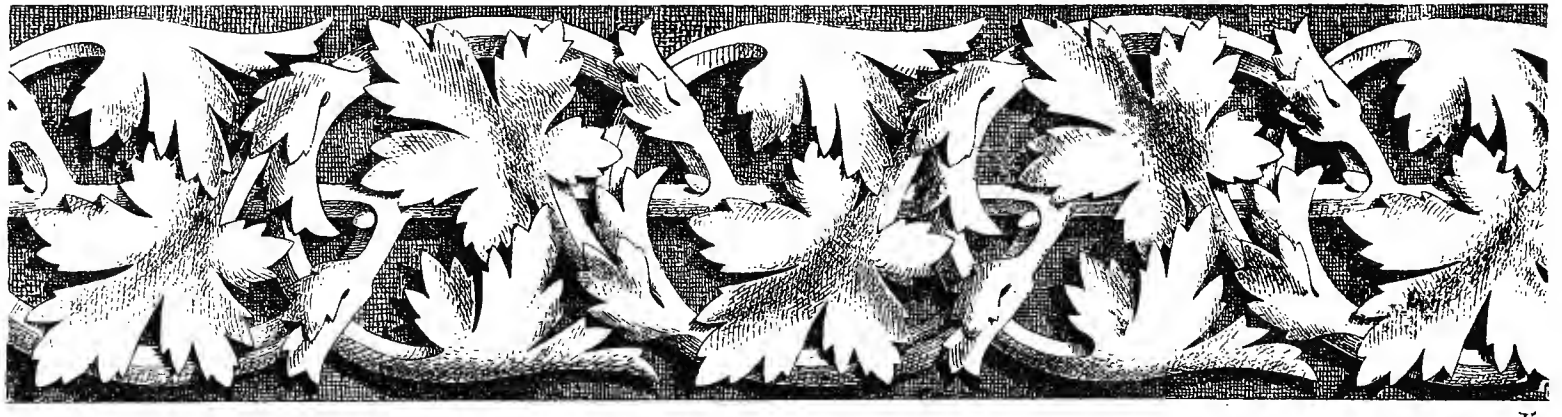


5 Ivy

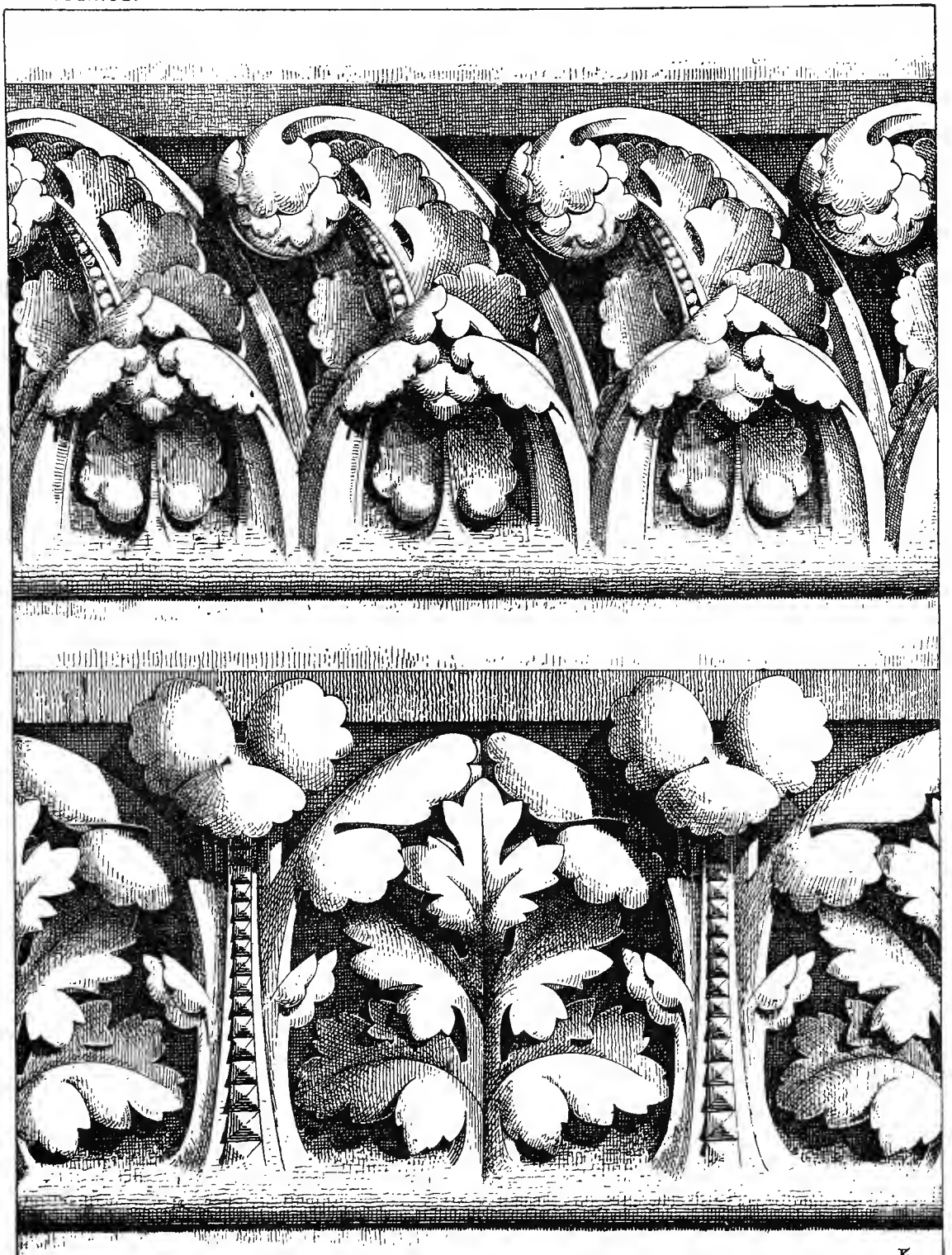


STRING COURSES

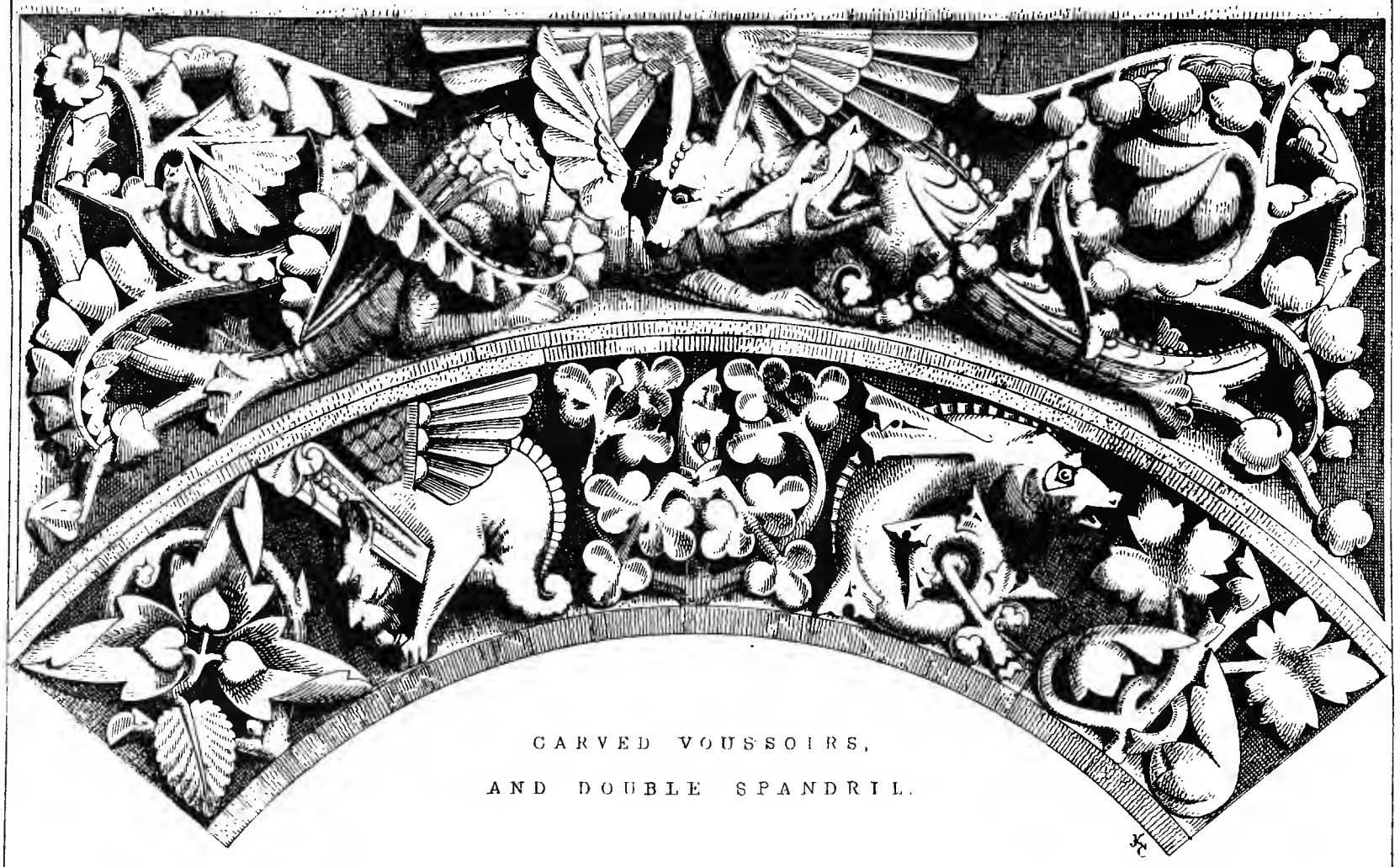




ENRICHED FRIEZES.

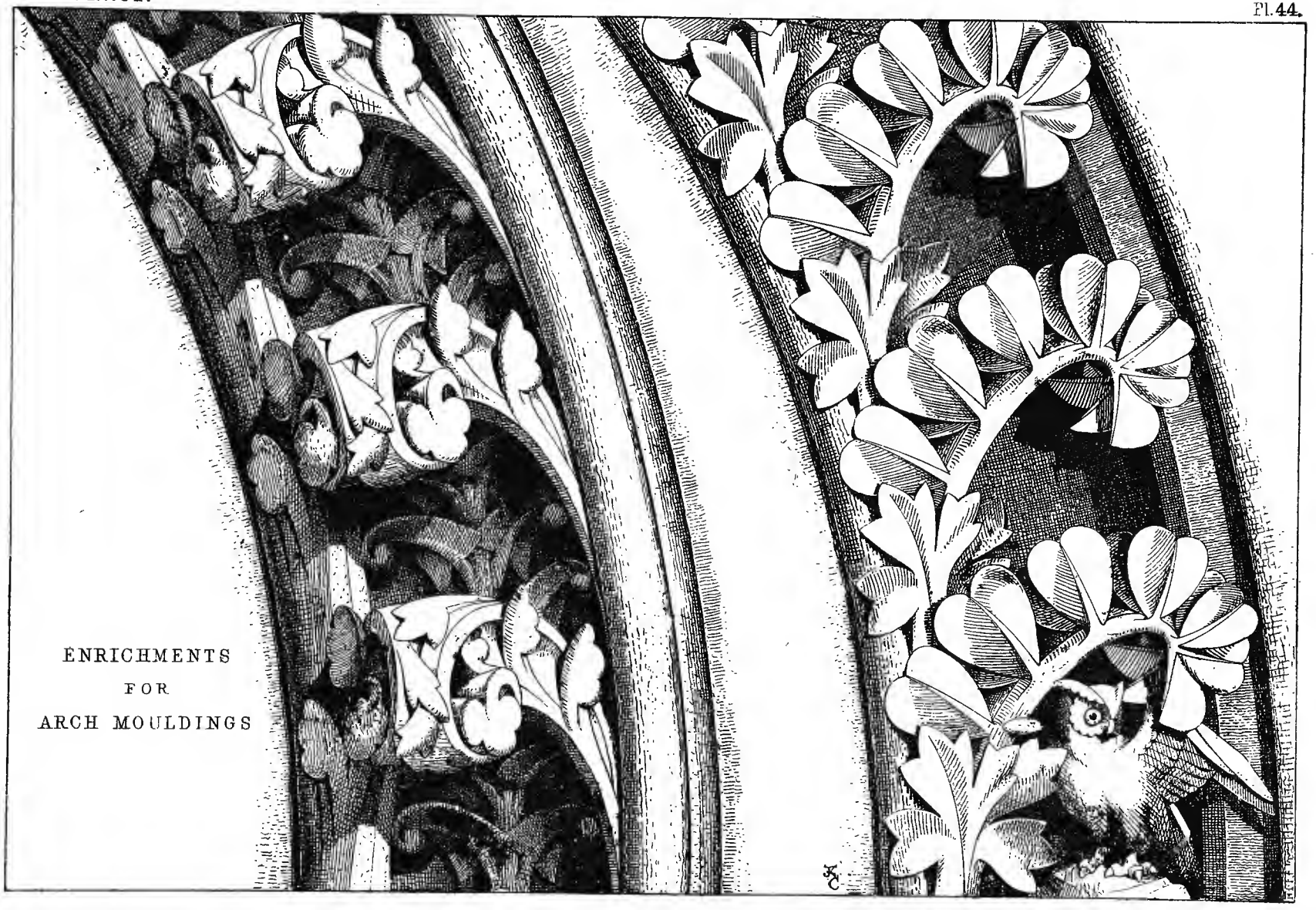


STONE CORNICES

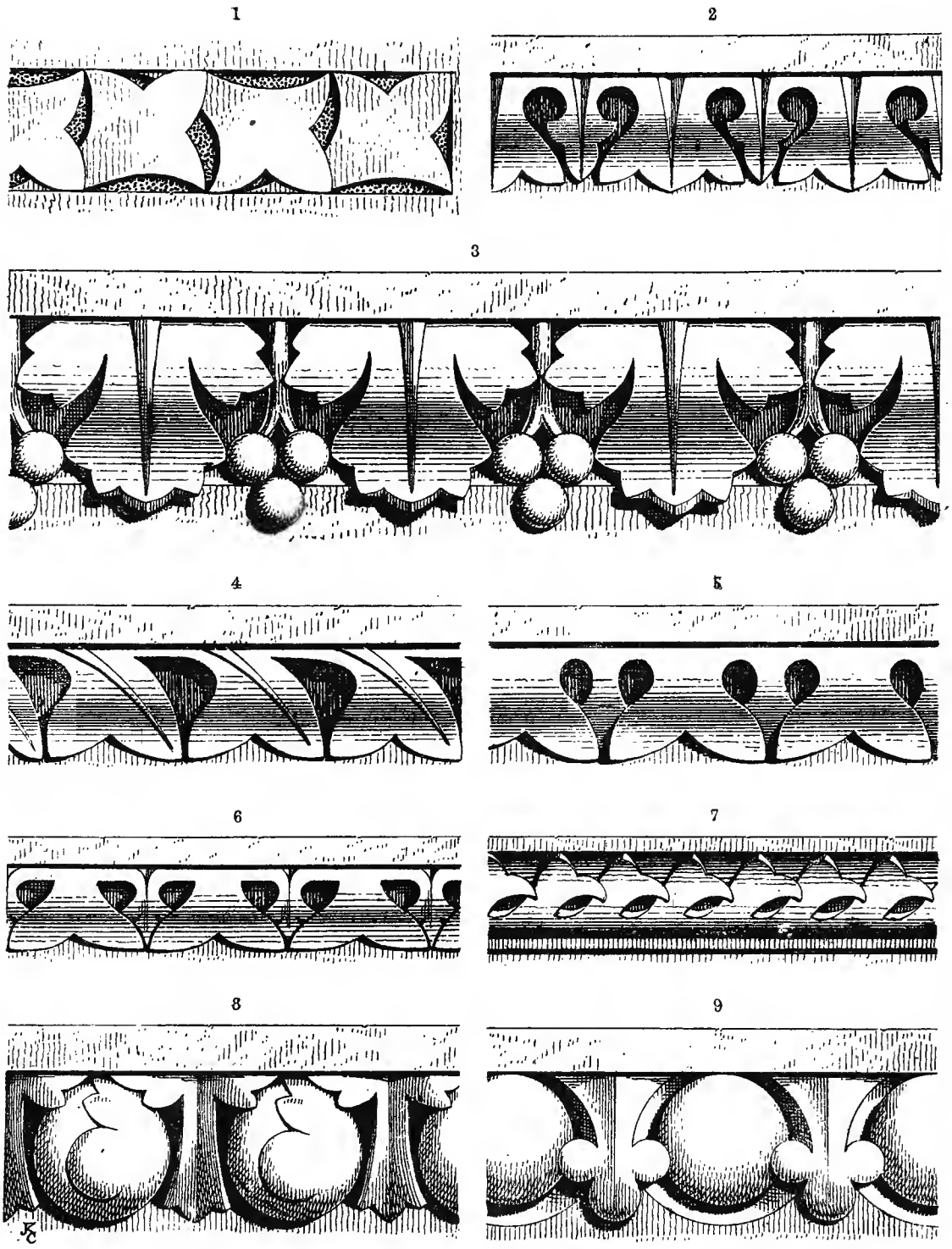


CARVED VOUSSOIRS,

AND DOUBLE SPANDRIL.

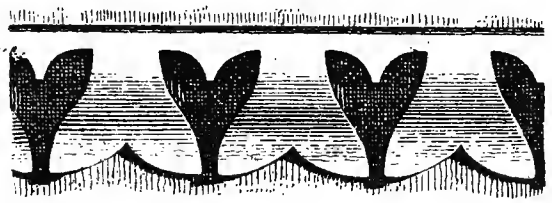


ENRICHMENTS
FOR
ARCH MOULDINGS



CLASSIC MOULDINGS.

1



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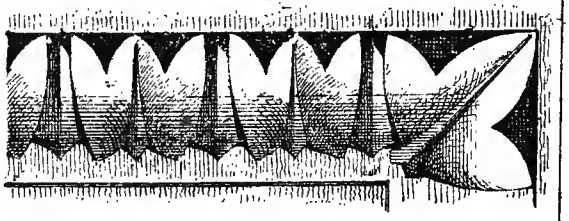

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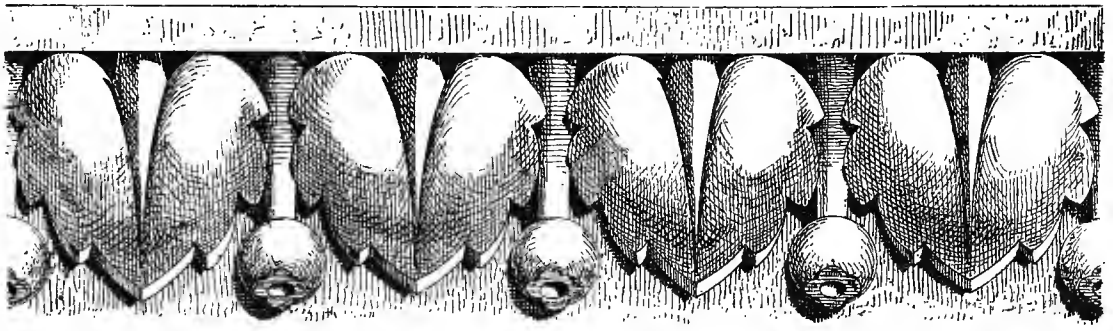

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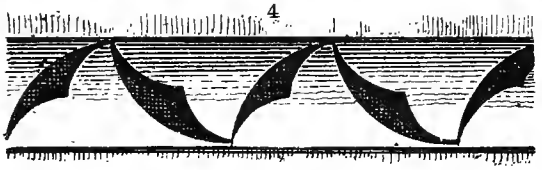

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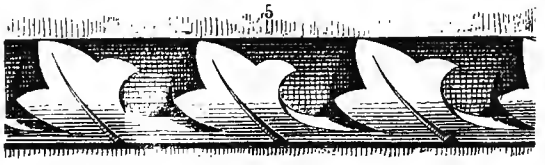

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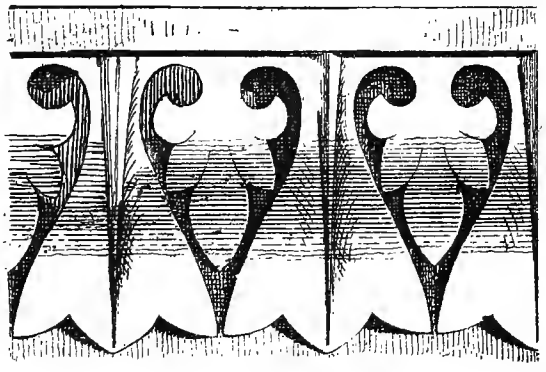

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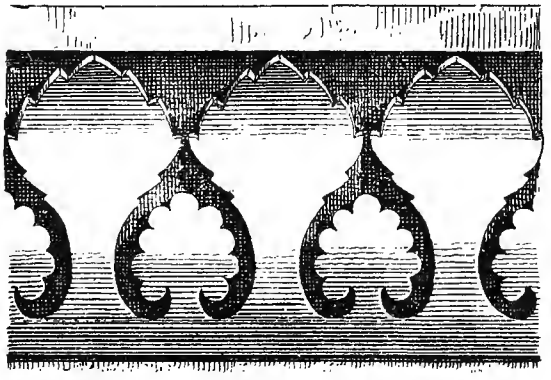

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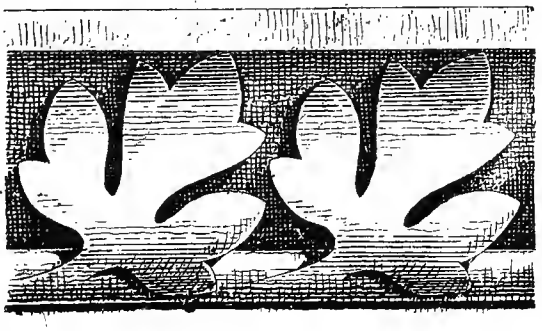

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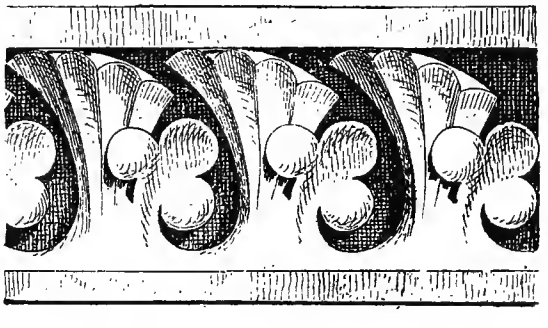
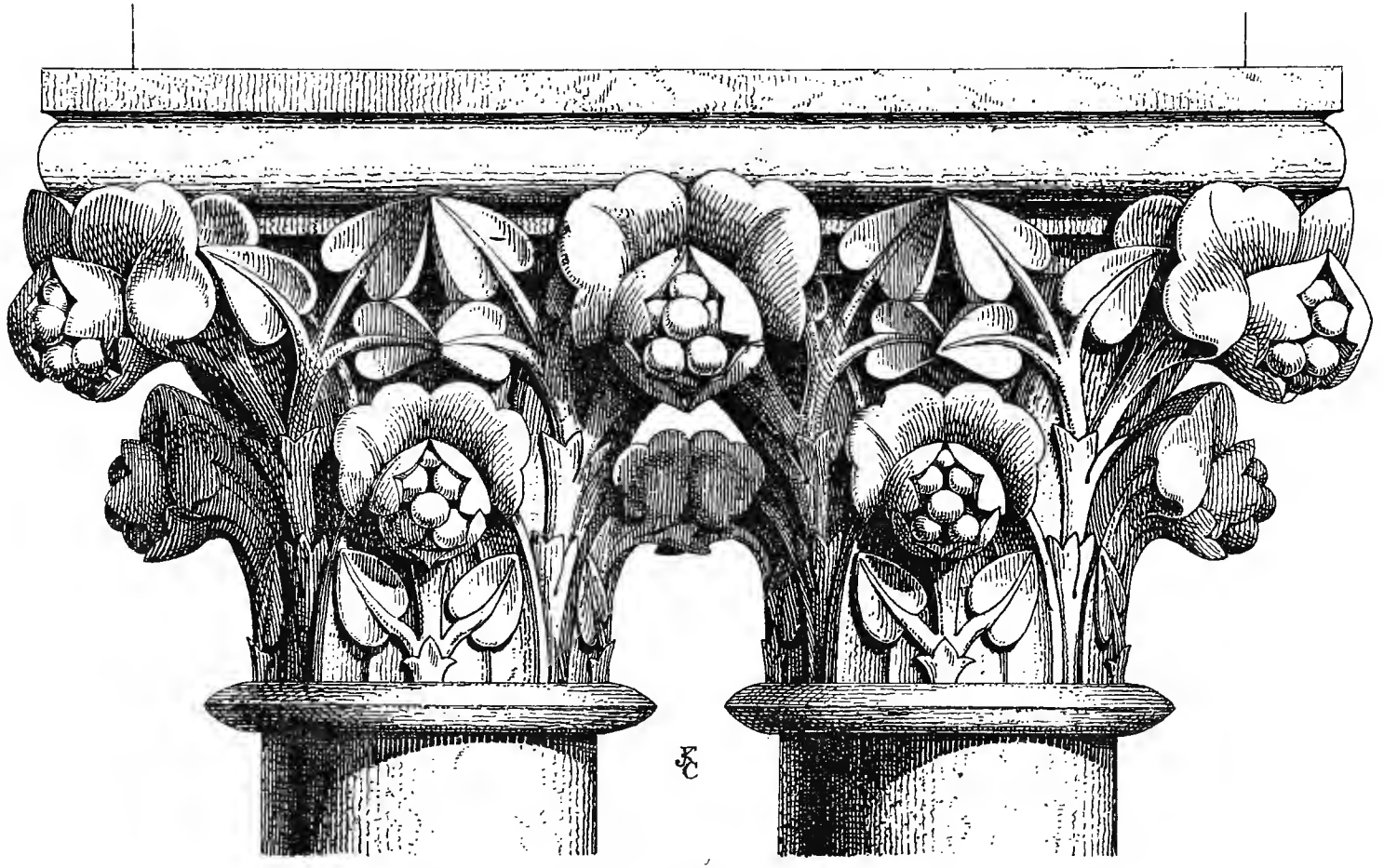
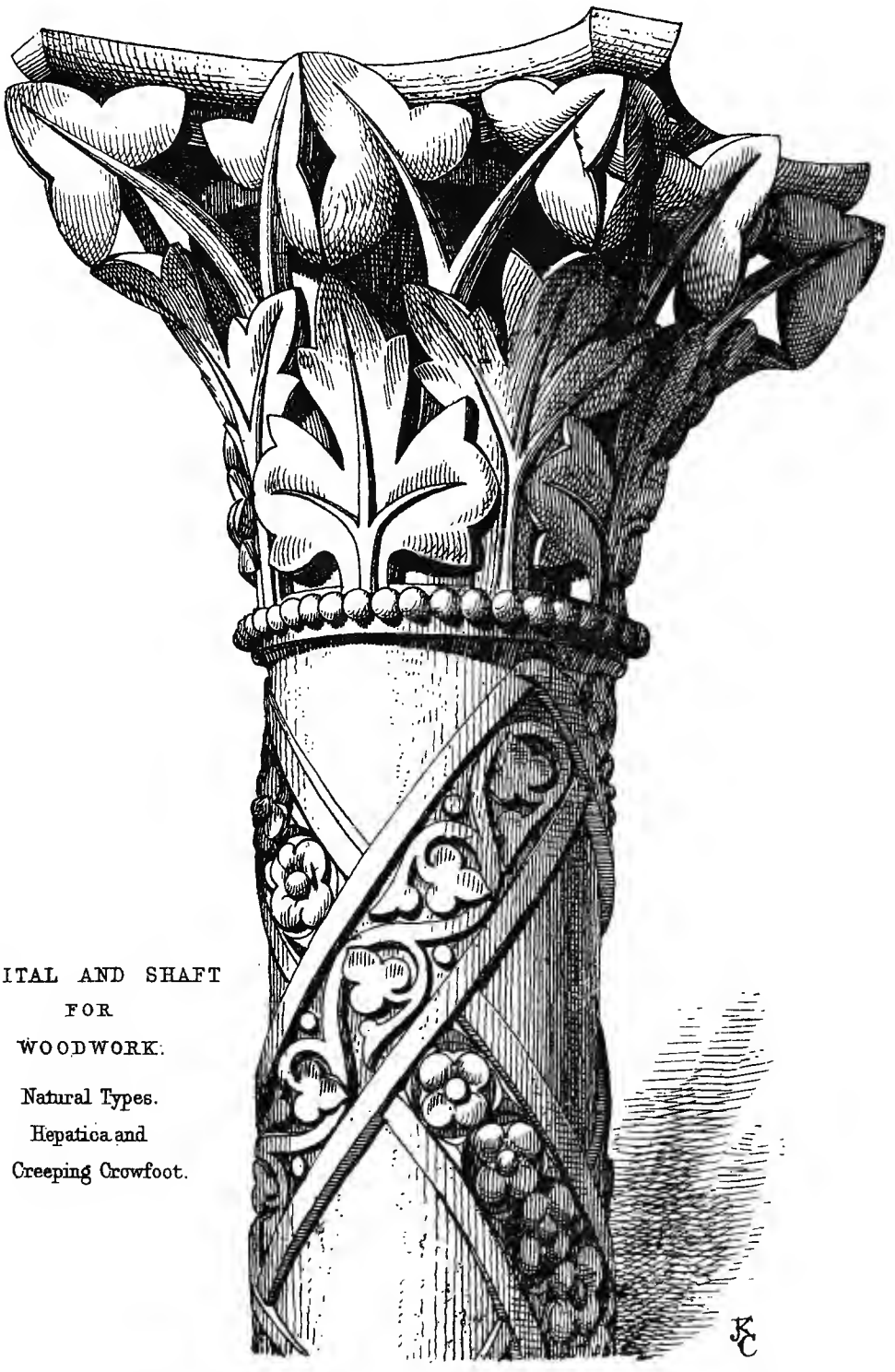


CLASSIC MOULDINGS

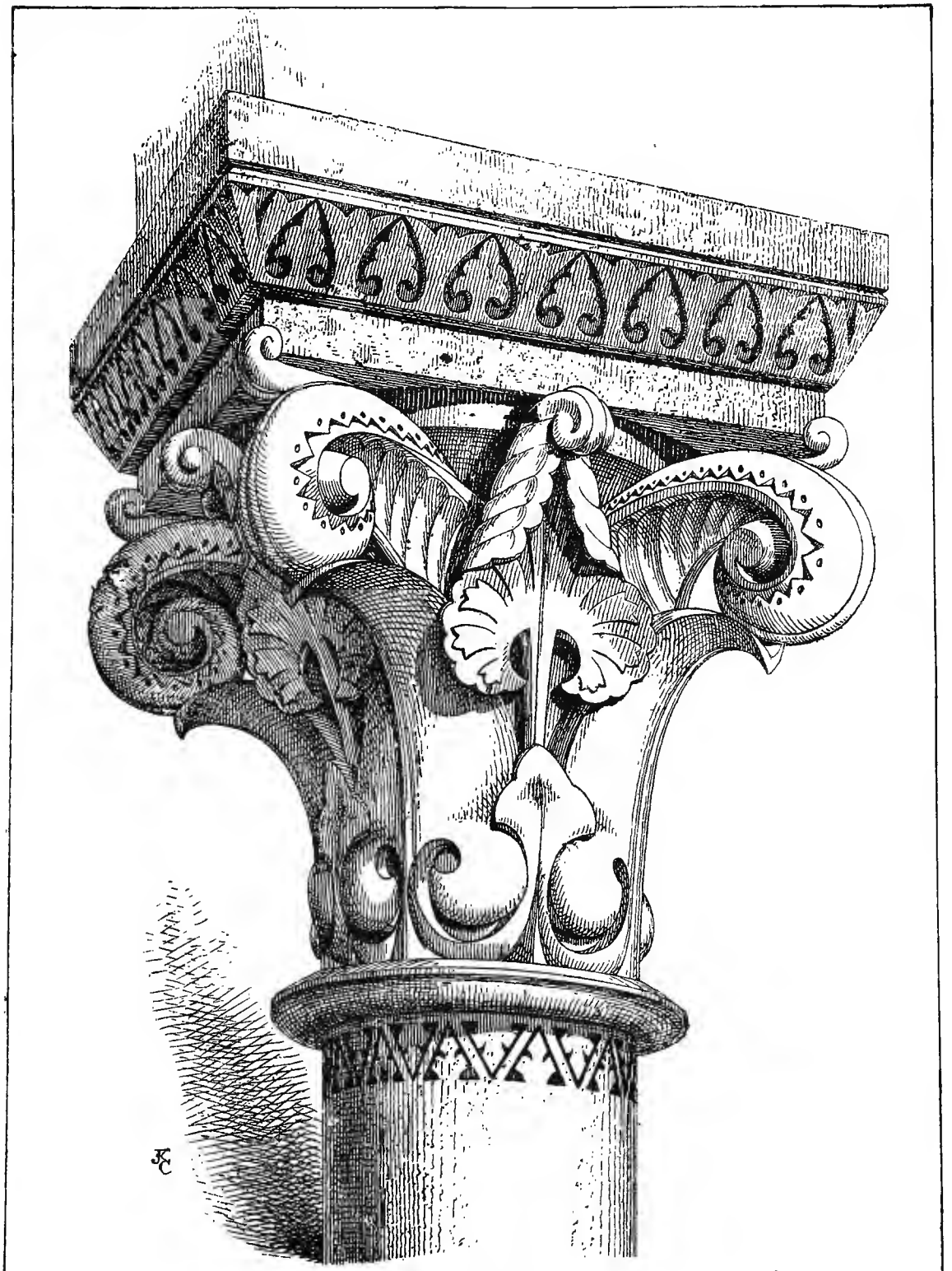


CAPITALS.
Natural type, Sweet Pea.

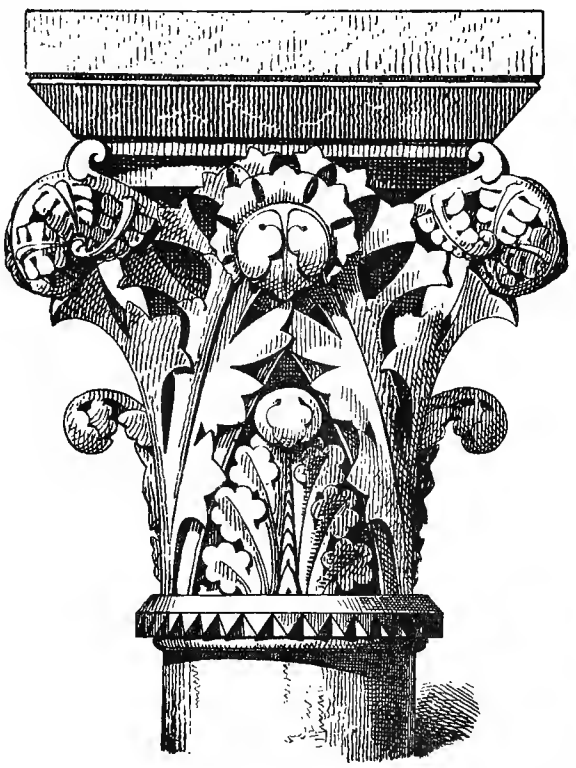


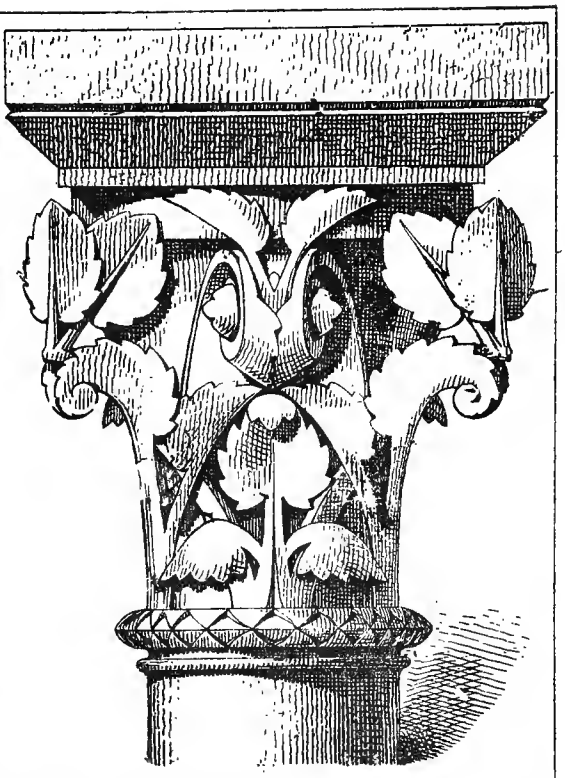
CAPITAL AND SHAFT
FOR
WOODWORK.

Natural Types.
Hepatica and
Creeping Crowfoot.

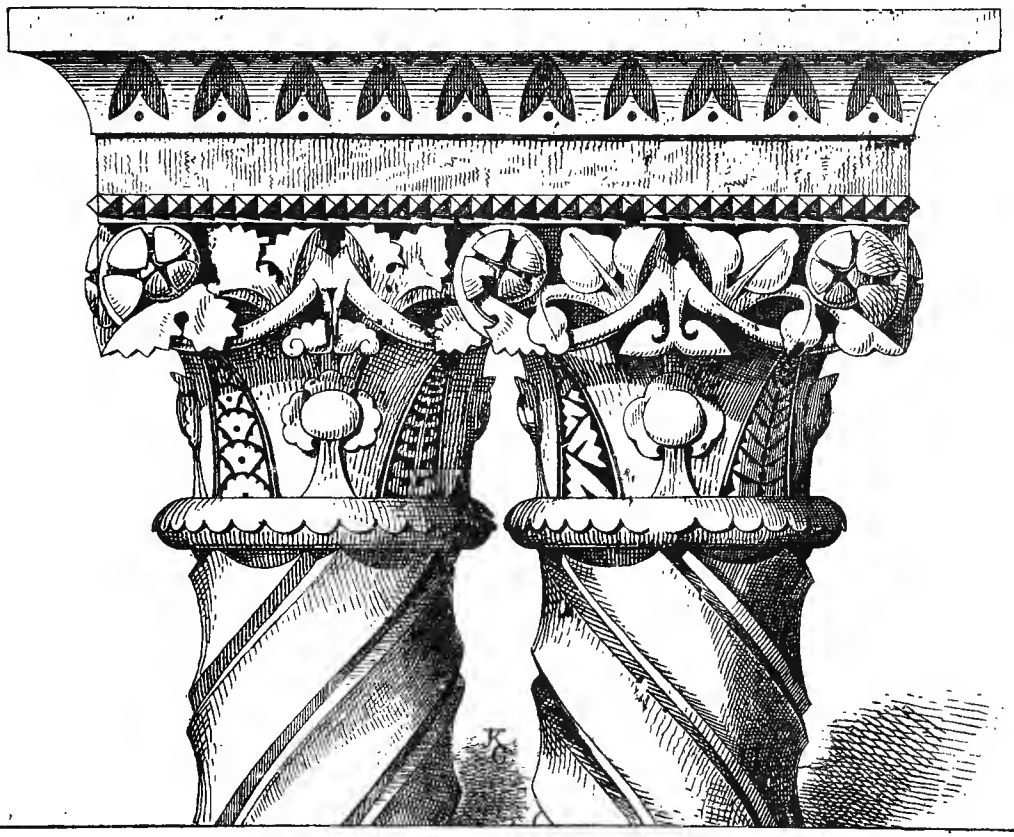


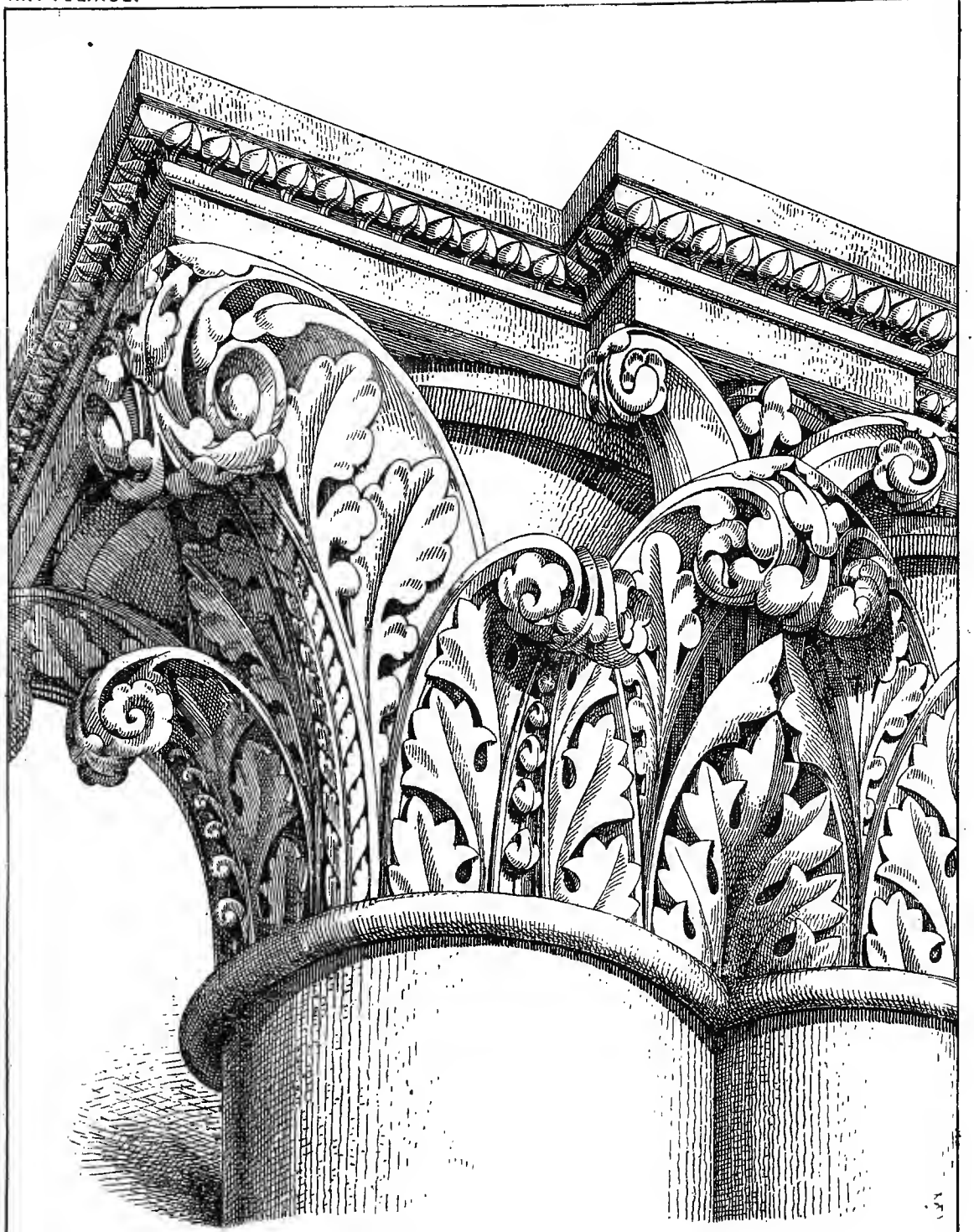
STONE CAPITAL.
Arum and Harts Tongue Fern.





STONE APITALS





COUPLED CAPITAL.

Fern, Celandine and Grevillea Acanthifolia.

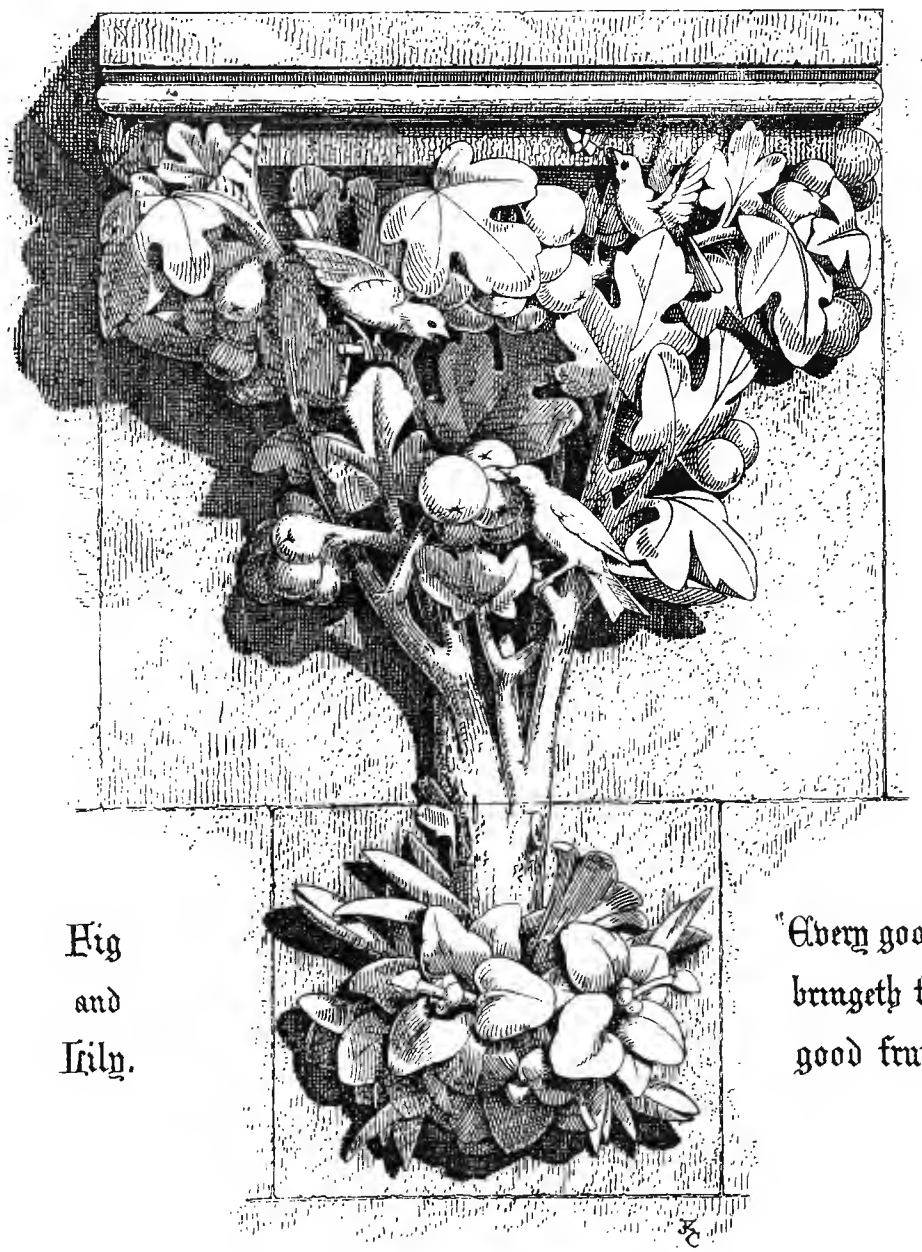
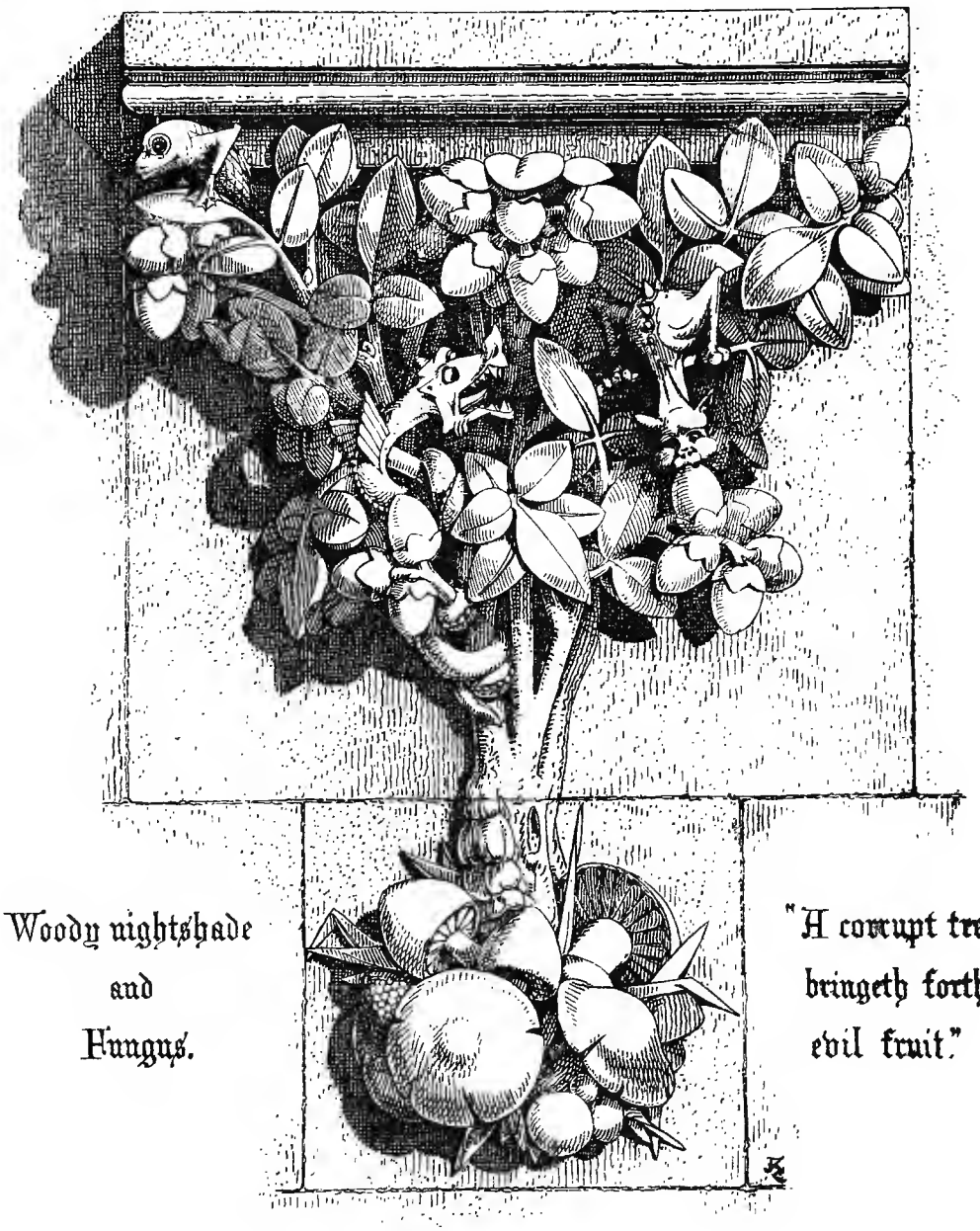


Fig and Lily.

"Every good tree bringeth forth good fruit."

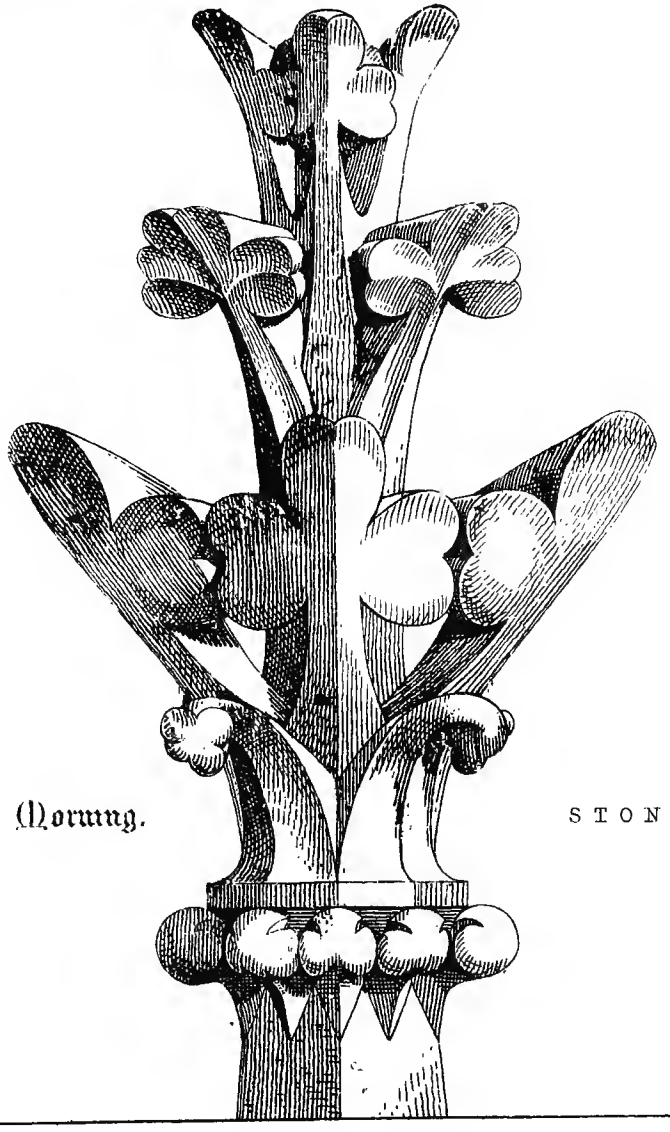
STONE CORBEL.



Woody nightshade and Fungus.

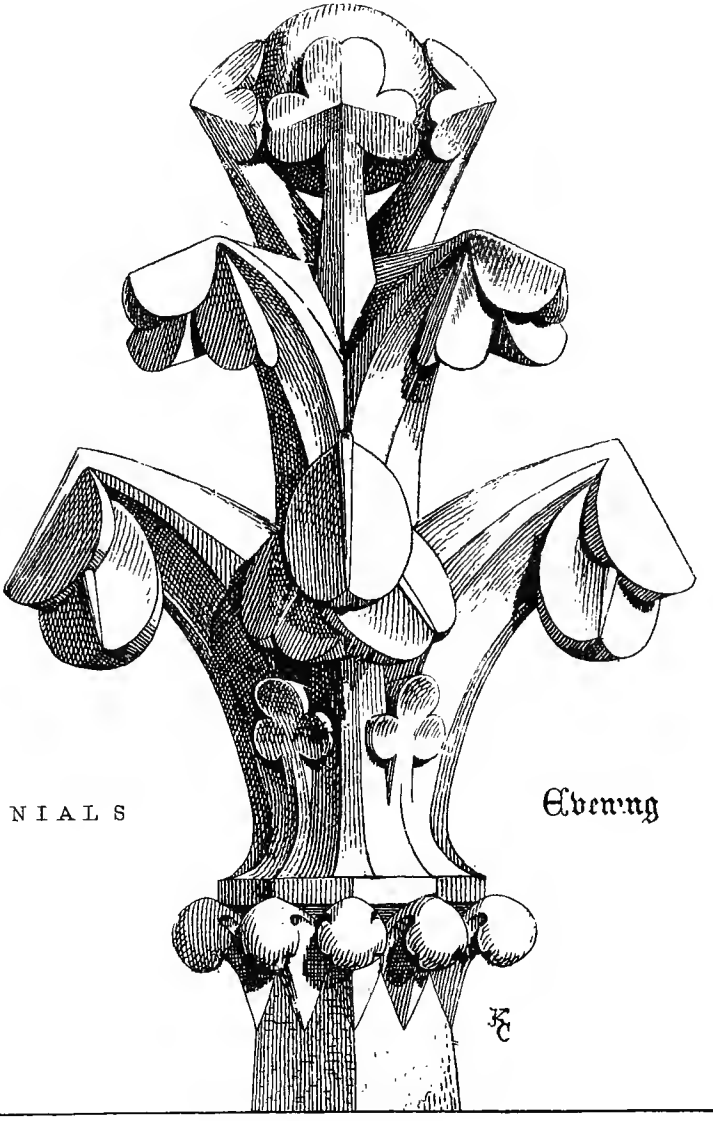
"A corrupt tree bringeth forth evil fruit."

STONE CORBEL.

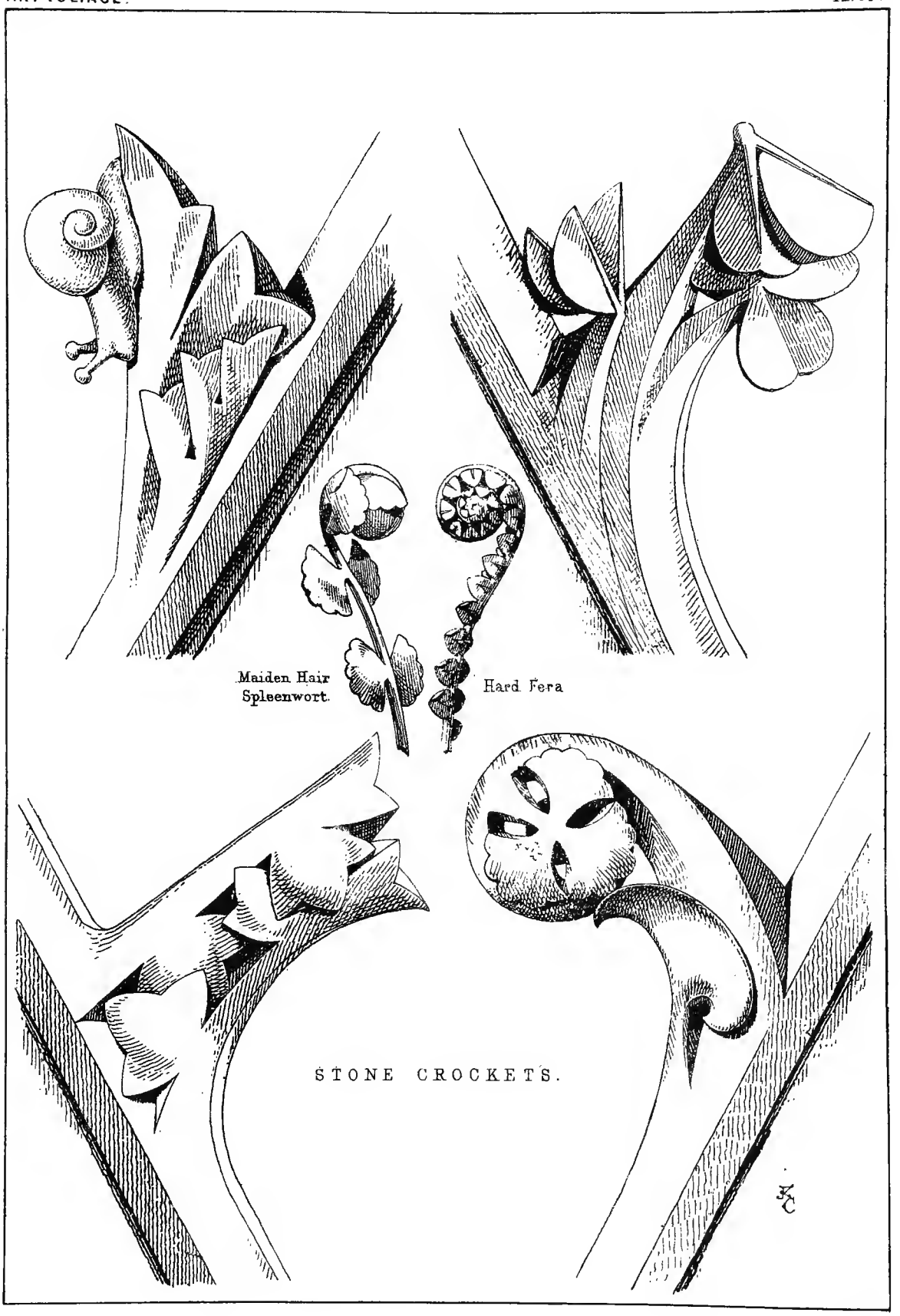


Morning.

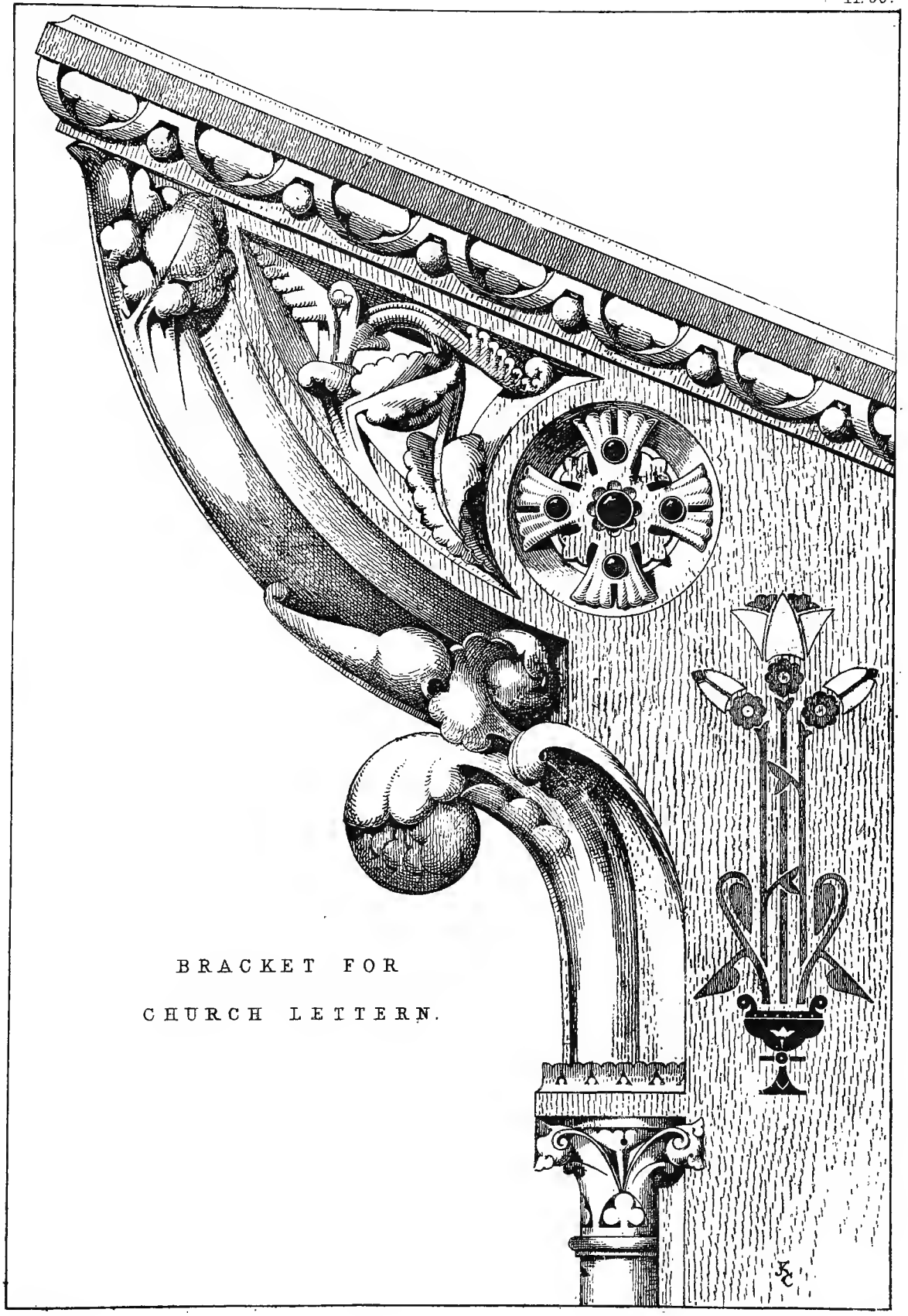
STONE FINIALS



Evening

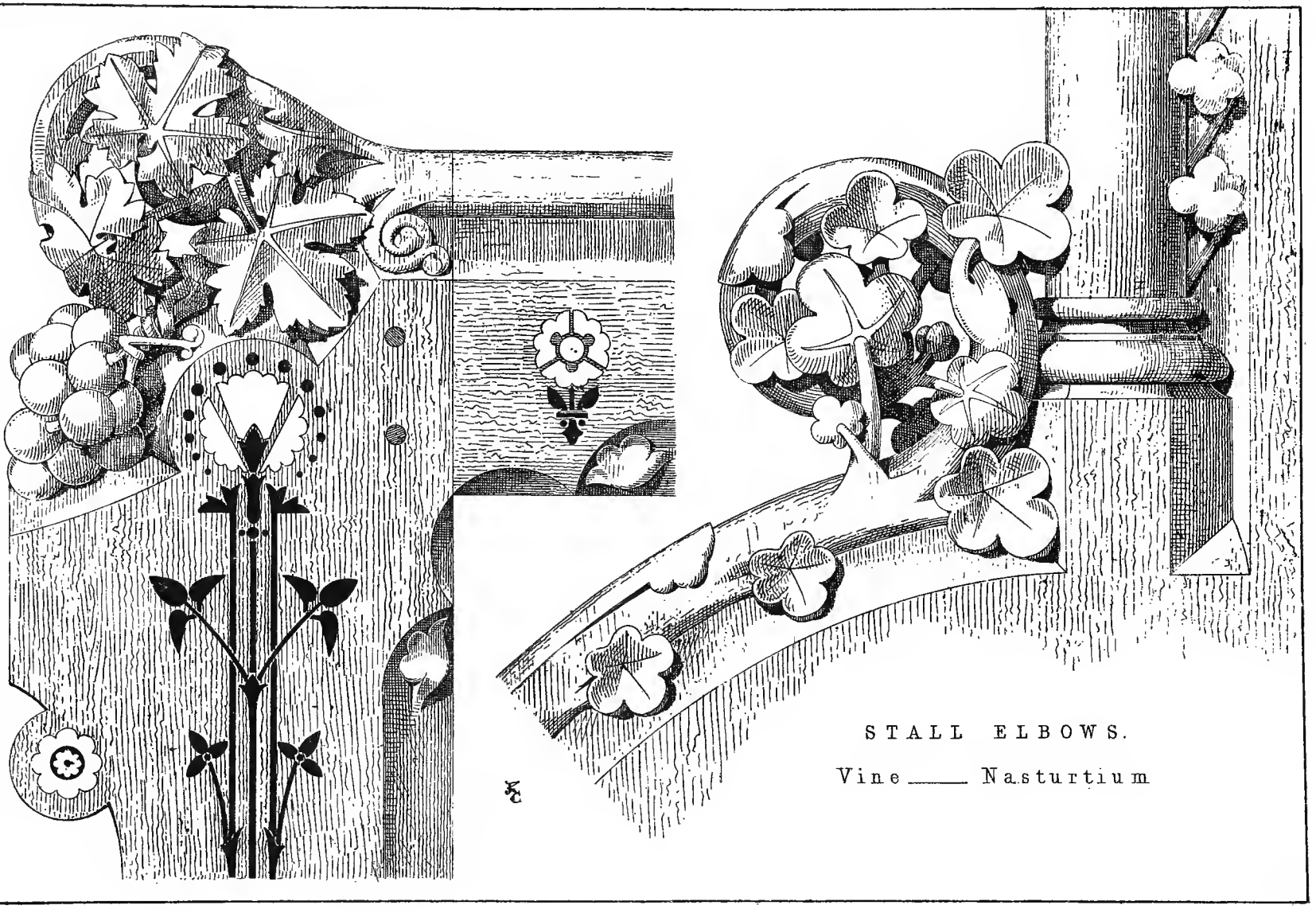


STONE CROCKETS.



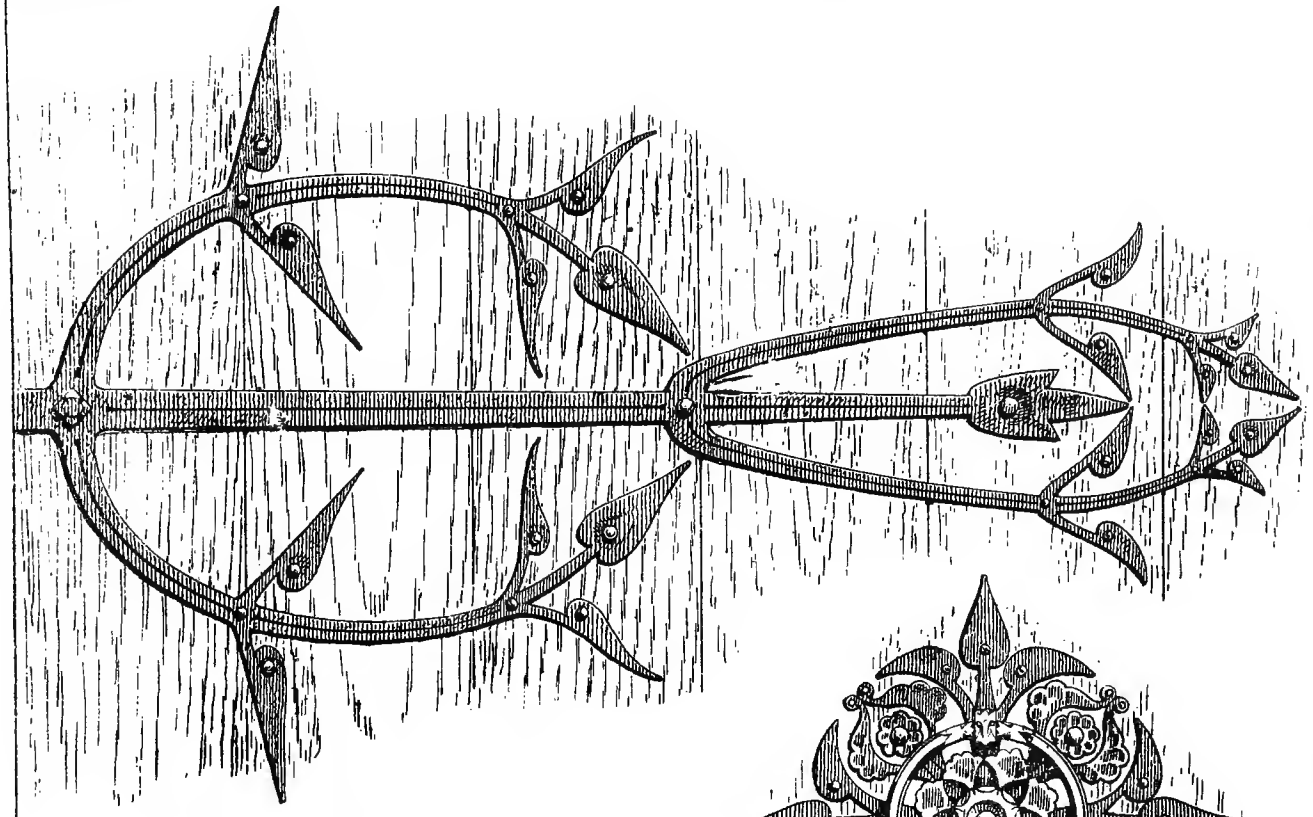
BRACKET FOR

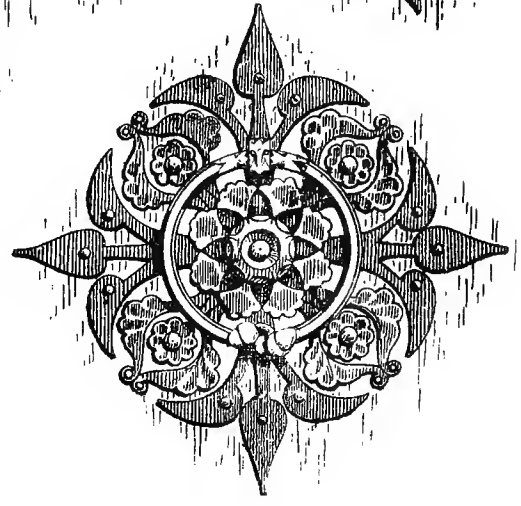
CHURCH LETTERN.

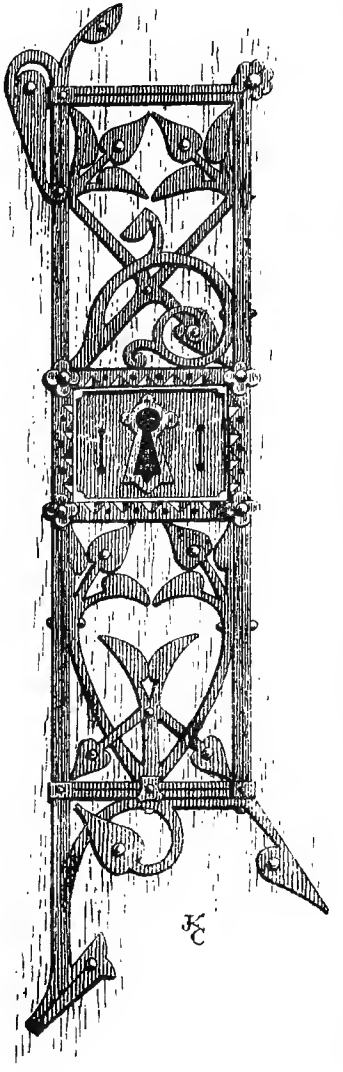


STALL ELBOWS.

Vine ____ Nasturtium

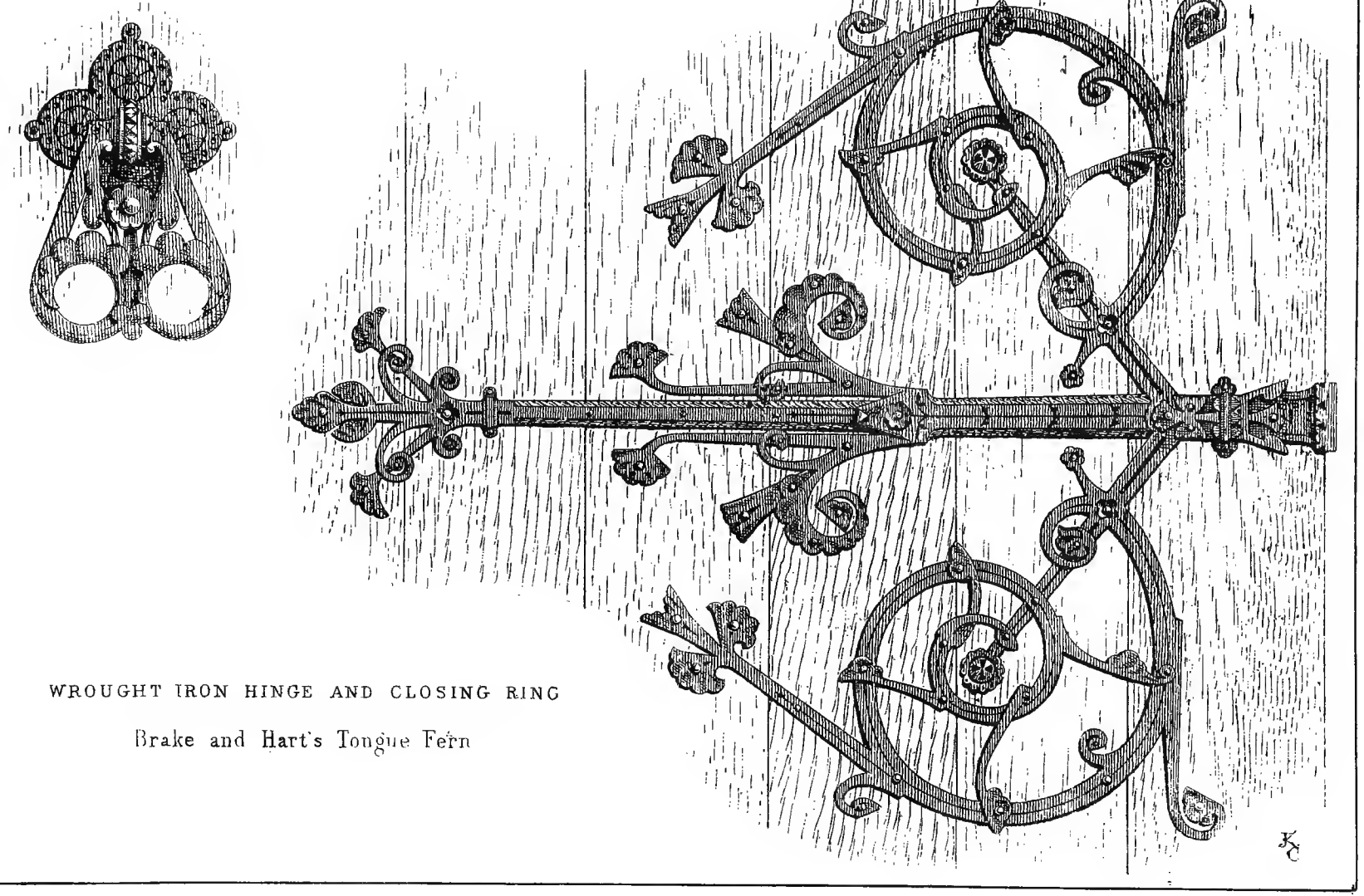






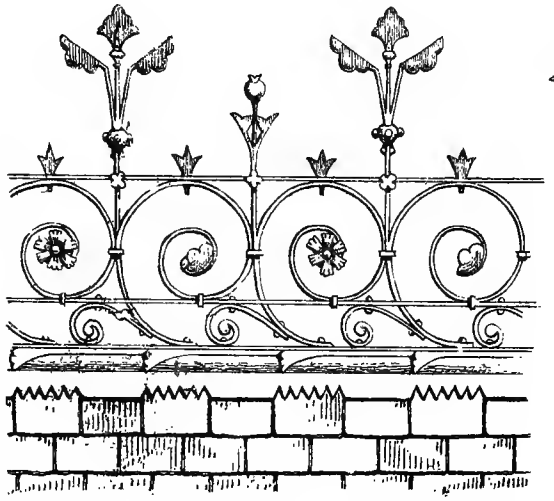
HINGE, LOCK PLATE AND CLOSING RING.

Clematis.



WROUGHT IRON HINGE AND CLOSING RING

Brake and Hart's Tongue Fern



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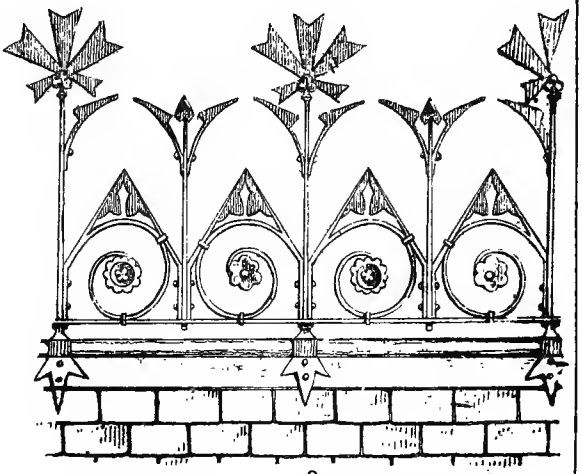

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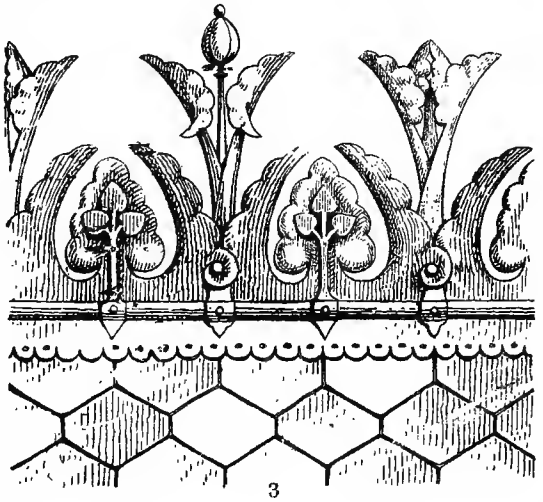

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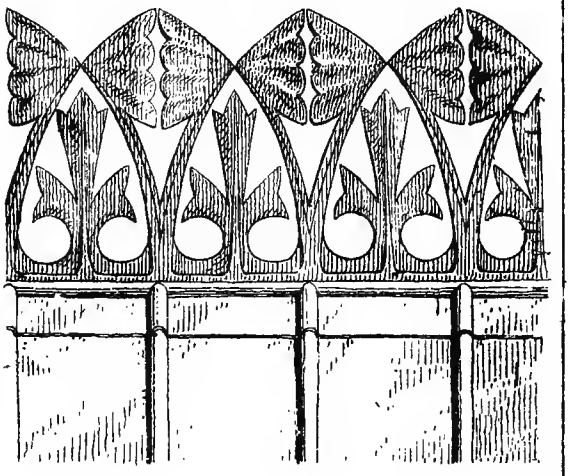

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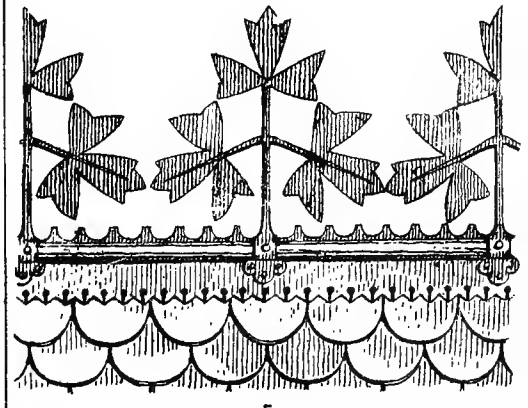

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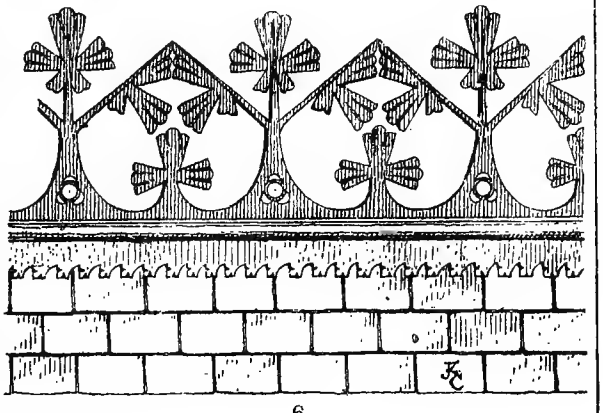


6

METAL CRESTINGS.

PART III.—NATURAL EXAMPLES.

CHAPTER I.

BRANCHING.

OFTEN in the pursuit after agreeable examples in nature for ornamental purposes, and in the anxiety to discover that which will easiest adapt itself to our requirements, we are apt to seize upon forms which are exceptional and seldom repeated in nature; and by imitation alone expect to attain our object. Alas! that the result should be so unsatisfactory! How often do these very forms that we have so assiduously imitated, rise up against us in painful contrast with our own puny works, which sink feebly in the shade as tame, insipid, and lifeless? As instances of this may be mentioned the attempt which has been made to form the *Nepenthes*, or pitcher of the Pitcher Plant, into a milk jug; the Convolvulus into gaseliers, with gas jets for stamens. Carved representations of the Rose, also, usually fail unless they are much conventionalized. But why should this be so? To the uninitiated it would appear to be a very simple task to form that curious pitcher into a milk jug; yet, when it is done, what a senseless unmeaning thing it looks! A person exclaims at once, "Oh! I see it is copied from the Pitcher Plant." With that his interest in your work ceases. He admired the original, but he does not think twice about your copy. The carefully carved Rose, also, looks very much like paper rolled up into a ball. The fact is, that these beautiful forms in nature are so linked with their colour, transparency, or perfume — in short, life — that our representations are nothing but the imitation of the mere dead form — as the original would be, if we could so imagine it, covered with a coat of whitewash. There are some forms in nature which are so peculiar — so perfectly beautiful — that they seem to defy any adaptation from them, and yet they appear almost ready for our purpose without alteration — forms the most difficult to deal with — while others lose their greatest charm when separated from their colour.

It will be absolutely necessary, for the successful study of natural foliage, to describe the various parts of vegetation somewhat botanically; although, in doing so, I will endeavour to divest the description, as far as possible, of the technicalities of the

science ; and, wherever practicable, to use English names instead of the Latin. Unfortunately, botany has become so overloaded and burdened with long Latin and Greek names, that ninety-nine persons out of a hundred dread ever looking into a botanical book ; unless it be just cursorily to glance over the Plates. However, that ought not to prevent us from going into the subject, if anything is to be obtained from it which is valuable to art. Still, it will be a relief if we can only get rid of some of the technicalities. The old English names, with their quaint significations, are far better than the botanical ones. How can *Agrostemma githago* be compared with the simple name of Corncockle, or *Aconitum lycoctonum* with the English name of Wolf's Bane. These are only two taken at random, there are many worse than these, while others, such as *Jacksonia*, *Goodia*, and *Doodia*, are made up from the surnames of aspiring gardeners.

It has been constantly asserted that there are no such things as straight lines in nature, and Mr. Owen Jones has further propounded the theory that "nature abhors an angle." Now, my own observations are diametrically opposed to such arbitrary assertions. Nature consists of the height of geometrical arrangement, into which the irregular is constantly intruding itself, but without straight lines and angles it would be difficult to have any geometrical precision. If we look into the heavens, we observe the sun's rays forming an angle with the horizontal lines of mist — the poet's

"Purple bars at eventide."

Then, "mid sea and sky," does not the horizon give a straight line? It may possibly be argued that it follows the curvature of the earth, but the perception of that is beyond the power of our vision. Another very simple illustration of natural straight lines and angles may be observed when a summer shower descends on a calm sea or lake. Our eyes, as well as our mouths, are placed strictly at right angles to our noses, and the slightest variation from the right angle is instantly detected. We stand also at right angles with the ground upon which we walk, and all that issues from the ground grows at right angles to it. The perpendicular line is the emblem of life, the horizontal of death. Nature is always at work in life, creating upright and perfectly straight lines, while in another direction she is continually toiling to bring them horizontal. The Wheat shoots up from the ground straight and perpendicular, but as it grows, and weight is added in the formation of the ear, nature, acting by the force of gravity, alters the straight line to a curve. Again, in the projection of the rocket ; it is ejected perpendicularly, but gravity causes it to perform a curve, and in these opposing forces are to be found some of nature's most lovely curves. In the Spruce Fir the centre stem is sufficiently rigid to overcome the power of gravitation, and it grows straight and upright ; until, at length, old age overtakes it, when it bows its head. So we bend towards the earth as we approach the grave. In Fir plantations, especially where the trees are growing rather thickly, the stems gives perfectly straight lines. The whole plantation appears to be absolutely ruled with upright, straight, parallel lines. The branches

issuing from these straight lines, give thousands of angles, and the linear leaves upon these branches repeat this angular structure to an unlimited extent.

In the serrating of leaves we see angles, and in their reticulation, again, the angles are carried on almost to infinity, without the most powerful microscope being able to detect the slightest imperfection. It will not do to point to the minute curve that joins the branch to its parent stem. One might just as well say, that there are no such things as straight lines and angles in art; or, that the spire of All Souls' Church, Langham-place, does not terminate in a point, because, I believe, by measurement, it does actually measure three quarters of an inch over. We might go on to say, that the sharpest needles have no points. I remember seeing, some years ago, a needle being magnified, at the Polytechnic Institution, by a very powerful microscope, and it looked so blunt, when magnified, that as soon as the audience learnt that it was a needle, it created a burst of laughter; while the angular reticulation of the wing of some insect, looked the more perfect the more it was magnified. The angles were as sharp as the most minute lines could make them.

The utmost that can be said is, that nature does not draw mathematically straight lines, nor form perfectly mathematical angles. But this is only an indefinite theory which does not in any way affect art. In crystallization, probably, her angles and straight lines are far more perfect, and come nearer mathematical exactness, if not wholly so, than any that we could form. As far, therefore, as our purposes are concerned, we can find an abundance of angles in nature; and why I rather dwell upon the subject here is, that I have endeavoured to take advantage, in some degree, of angular and straight lines in foliage.

Most trees, shrubs, and plants, when raised from seed, throw up two leaves, called seed leaves, from between which issue a bud, which contains the embryo of leaves and stalk forming the plant. The expanding of these leaves, bud and stalk, and the striking of the root into the ground, is the first year's work of the future tree. At the apex of the young tree, and also at the intersection of the leaves with the stalk, are formed, during the year, other buds containing the embryo of leaves and stalk, precisely similar to the first. The first formed leaves fall away in autumn, and the buds lie dormant during the winter, the embryo leaves being protected from frost and enclosed by scales, as shewn in the two small twigs of Oak given on Plate 29. In the spring the leaves within the buds expand, throwing off the outer scales, and the terminal one carries on the centre stalk in an erect position, while the others form branches around it. This process is repeated year after year, with a proportionate increase in the number of buds, until the tree attains its full height and size. In the Fir tribe the centre stalk is carried on by one leading shoot, and the tree very seldom divides or forks — as may be very clearly seen in the Spruce Fir. But, in other trees, as in the Oak, Maple, Elm, and many others, the tree forks and divides until there are a large number of leading

branches. They have, however, all one common object, to carry themselves onward towards heaven, until the tree reaches its full height, when they become bowed, and the shoots throw themselves out more in a horizontal direction. The tree then loses the pointed form, peculiar more or less to all young trees, and assumes the rounded, until it begins to decay and becomes "stag-headed;" that is, the leading branches die away and are not able to carry the tree any further in its upward course. This is an indication that the tree has attained its middle age, and has commenced its downward career towards old age.

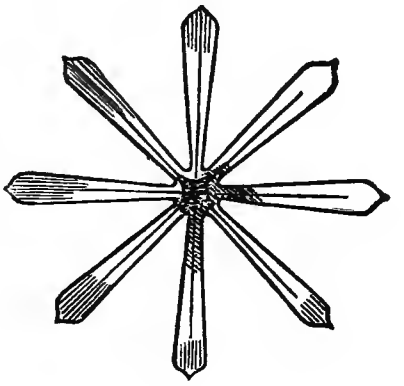
Each separate leaf-bud in a tree or plant is the germ of a perfect individual. This is well known, from the fact of trees and plants being so often raised from cuttings and grafting; which is simply the growing of the buds after being separated from the parent tree. Plants and trees grow in different ways, most commonly with buds, leaves, and branches either "alternate," or "opposite." That is, "alternate," when they spring out alternately at different points on the stem, not opposite each other — as in the Ivy, Oak, Thorn, and an immense number of others; "opposite," when they spring off from the same point or level upon the stem in pairs, but from opposite sides; and when seen upon the top or end of the branch they present a cruciform arrangement, as in the Lilac, Maple, Nettle, and others. Plate 61 represents a branch of Hawthorn, with alternate leaves, and another of Maple, with opposite leaves. This order, however, of alternation and opposition, is continually destroyed by imperfect development or accidental circumstances. Alternate leaves do not grow in one plane from the stem, but issue from all sides of it — usually forming an irregular spiral up the stem, as seen in the branch of Hawthorn, while each pair of opposite leaves grow nearly at right angles with the next pair below it; forming a cross, as already mentioned. But there is an exception to this rule, under certain circumstances, which it is very valuable to notice for the purposes of art. It is evident that, if leaves invariably grew all round the stem, we could not arrange the foliage naturally, in such features as spandrils, panels, and diapers, because the foliage in them must be, necessarily, more or less in one plane, and be extended flat upon the ground, as it is arranged in Plates 21, 23, 27, and 28. Now, nature does grow flat in this manner occasionally. In all the lower branches of trees, where they stretch themselves out horizontally, or as they frequently are, inclining towards the earth, the leaves spring out in one plane, in the manner shewn by the branch of Maple given on Plate 61. This is not, however, peculiar to the Maple, but may be seen again in the Elm, Beech, and many other trees. Again, when foliage is growing against a wall, more particularly with the Ivy, of which an example is given, (No. 50, Plate 66) the leaves are in one plane, parallel to the wall. So that nothing can be more natural than the arrangement of leaves in spandrils in the same plane as the wall, for here, as in the Ivy, the foliage is extended as nature would have put it herself in a like position.

The opposite or cross-form of growth is clearly seen in the sprigs of Lilac, Sycamore, and Maple, given on Plate 31, but it may be observed that although the

cross-form is very apparent, it is never quite perfect. One in the pair of opposite leaves will always be in the ascendancy.

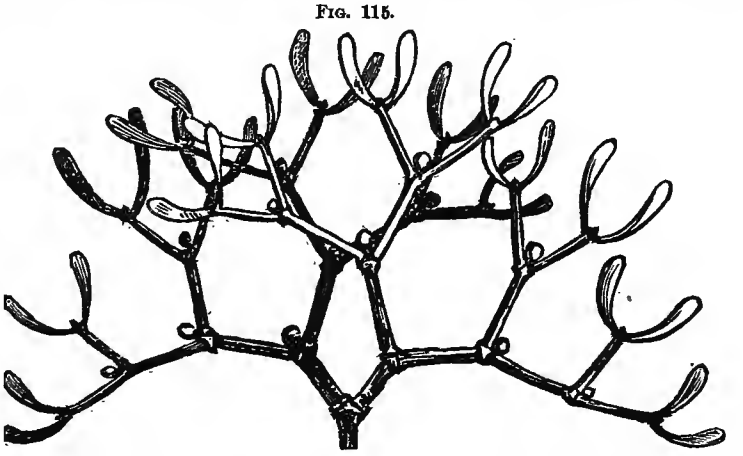
Another mode of branching, or rather arrangement of leaves, is in a whorl; that is, more than two leaves growing out from the stem at the same level, as in the Fuschia and Wood Anemone, where the leaves grow in a whorl of three. The Anemone is given at No. 9, Plate 70. The Crosswort grows in a whorl of four, and the Cleavers in a whorl of eight, as shewn by Fig. 114, which is a cross-section through the stem, shewing one of the whorls of leaves. This manner of leaves issuing in a star-like form, approaches the radiation of petals in flowers, and it serves to illustrate how perfectly natural it is to arrange leaf-form in this manner for the purposes of art. The Italians, in some of their arabesques, made use of leafage in this same way.

Fig. 114.



There is also a mode of growth by forking of the leaves and branches — that is, never advancing in a direct straight line by a leading bud or branch, but always dividing at every intersection, and advancing to the right and left. This mode of growth is sometimes seen, to a certain extent, in the Maple and other trees bearing opposite leaves. In them it is an accidental circumstance, from the loss of the leading bud, and not their rule of growth; but in Sea-weed, Mosses, common Brake, and several of the lower classes of vegetation, forking is the rule. The Mistletoe grows in this manner, a small branch of which, Fig. 115, will at once explain the principle. The axilla of the fork in the Mistletoe is occupied by a flower-bud, which afterwards becomes the well-known berry. The joints also of the stems are curiously articulated, somewhat like the articulation of bones, and they will easily separate at these joints. A peculiarity of this species of vegetation is, that it usually forks all in the same plane, as will be at once seen upon examination of a branch of Mistletoe, and it returns or doubles over upon itself, in two main branches from the first fork, as shewn by the woodcut Fig. 115. The regularity with which this occurs is somewhat remarkable. The forking is exactly the same in principle as Mr. Ruskin's

Fig. 115.



"Clerk of Works Tree," which he has given in his *Modern Painters*, and the curious result, which he says there, would take place if opposite trees went on forking, actually does take place, in nature, in the case of the Mistletoe.

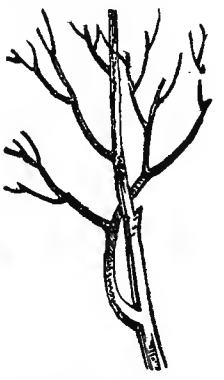
The junctions of young branches or leaves in many plants are accompanied by stipules, as in the Hawthorn, shewn on Plate 22, and in the branch of Hawthorn, Plate 61. They are seen again accompanying the leaf-stalks of Roses, in the Mountain Ash or Rowan Tree, No. 25, Plate 65, the Vetch, No. 7, and the Avens, No. 23. They frequently contain very elegant lines, and might be introduced in carving to soften the junction in the branching of stems, and to take the place of the old conventional sheath or starting-point so universally seen in classic scroll-work. I have made an attempt to use them in this manner in Plate 41. Besides this, Nature has other means of enriching the branching of stems, as with a clasping leaf, as in the Yellow-horned Popy, No. 91, Plate 69; one of which leaves accompanies every division in the stem, as it branches first to the right and then to the left.

Fig. 117.

The direction that branches take in springing out from the parent stem is worth noticing, and is often very suggestive for the arrangement of stems in art. In the Beech and Elm they often take a zig-zag direction, as in Fig. 116, and in many Grasses the seeds take a somewhat similar arrangement, Fig. 117, Rye Grass. The latter very suggestive for conventional running decoration. In the Lombardy Poplar the smaller branches issue in a curve from the main branch, as shewn by Fig. 118. The lowermost branches of large trees often do the same. It is a provision of nature to prevent the branches from growing too close together.

Fig. 116.

Fig. 118.



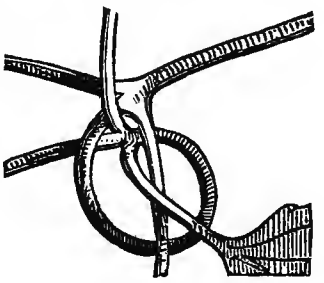
In the zig-zag branching the young shoot appears to have an influence over the parent, and they both grow from each other. In the other case the child is left to shift for itself, while the parent goes straight on its way, consequently the young bud shoots out almost horizontally, but grows into the upright line by degrees, thus engendering in its course a curve. This is a mode of growth which has been taken advantage of by the Normans in some of their foliage, as in the example, Fig. 119, from the Prior's Entrance, Ely Cathedral. I have adopted the same form of branching in the string-course, No. 1, Plate 40, and which is illustrated by the diagram Fig. 104.

Fig. 119.

In trailing and creeping plants, the direction of the branches and leaves will sometimes assume the most curious and elegant lines. In a branch of Ground Ivy, when it is hanging downwards, the leaves will appear to be growing backwards, but it is only an effort in nature for the leaves to return to their natural upward direction of growth.

The tendrils of the Vine often assume very fantastic forms, totally different from the conventional rendering of them, which is always after the manner of a corkscrew, a shape they never take, except when clinging to anything for support. Other plants, which have no tendrils, cling by the twisting of the stem itself. As in the Clematis, (Fig. 120) which presents a really beautiful study for a conventional knot of foliage. There are thousands of other matters connected with the growth and branching of foliage, which, if the student intends going beyond the mere surface of things, will amply repay for his study.

FIG. 120.



CHAPTER II.

BUDS.

STRONG decided lines, possessing great beauty and freshness of form, are so frequently contained in leaf-buds and all young developments of plant growth, that they offer an extensive field for all who are in search of beauty for art purposes. The folded and half-expanded leaves also, give frequent charming suggestions, which may be made of the greatest use if adapted by the eye of the artist. The fresh and delicate colour of leaf-buds, and their contrast with the older and more sombre parts, is in itself a study which cannot fail to lead to important results, if pursued with an appreciation of the delicacy of contrast and the harmonious combinations of self colour. Their arrangement and delicate plaiting is sometimes highly symmetrical and regular, throwing out strong powerful angles, which appear almost as if standing ready for the adaptation of the carver.

"Light leaves young as joy * * *
——— and the bud which brings
The swiftest thought of beauty." BYRON.

Plant-buds, like children, continually strike one as being pure and beautiful. How often has one been struck by the purity and innocence of children? So it is in vegetable nature, the bursting buds are the emblems of purity and innocence, and their opening forms are fraught with nature's freshest beauty; afterwards when the forms are more developed, and the stems get woody and rigid, nature loses much of its early elegance and grace, and becomes hard, stiff and dry. Buds, then, should be watched and studied as they open and expand themselves, and should be drawn at two or three times their natural size, or in many cases much larger, as when seen under a powerful magnifying glass.

Buds, as has before been mentioned, issue from the axilla of the leaf-stalk, as shewn by the buds of Dog-wood, No. 36, Plate 63.* The old leaves having been shed in the autumn, and the young buds commenced to grow on the return of spring. When the leaf falls off in autumn the young bud is protected from the frost by numerous scales and envelopes, which burst and fall off in spring as the bud opens, as shewn by the bud of the Horse Chesnut, No. 19; Maple, No. 25, and the bud of Sycamore, No. 62. The

* The numbers of the Figures consecutively through Plates 62 and 63.

scar left by the old leaves is plainly seen in the Horse Chesnut long after the leaf is gone. The cruciform growth, with firm, fleshy-formed leaves, is seen in the Wild Mint, Nos. 1, 4, 8 and 23. The last example shews how a bud may be frequently studied to advantage — that is, by dissection. No. 23 has one of the outer leaves removed, shewing the inner bud reposing in the hollow of the leaf. Others have been drawn in this way, after the outer leaves have been stripped off, shewing the very embryo of the bud, magnified sometimes to twenty or thirty times the natural size, as Nos. 7, 24, 28, 47, 48, and 51. Delicate little forms, of the most exquisite grace and beauty, may thus often be found which would otherwise totally escape notice. Nature must be looked into closely and attentively, when delicious little forms will be seen, of which after all, my Plates give but a very faint indication. The innermost recesses of nature must be brought forward to the light, and nothing, if possible, left unobserved and unnoted. Unless gone into in this manner, and with an intense determination to study every part, whether large or small, one can hardly say that he has been observing nature in search of the beauty of form. Who would have imagined that Ivy-buds contained such graceful lines as they do? I had looked at them many times before I discovered what they were like, but when I found such forms as those given at Nos. 38, 45, 50 and 55, which are highly magnified, I considered myself amply repaid for my trouble. I have not yet applied them to my satisfaction, still there is a beauty in them, of which others, probably, will be able to make more fortunate use.

Look again, at the minute buds of the common garden Rue, Nos. 12, 13, 14 and 15, also greatly magnified. What classic forms can be more truly elegant? How symmetrical is the form of No. 13! Compare it with the graceful pencilling of the colour on the petal of a white Geranium, as shewn by Fig. 121, which represents the rich, dark claret-colour upon the white petal of a garden Geranium, increased to three times its natural size. The figure cannot, however, give the softness and delicacy with which the colour blends into the white, and the darker veins which again intersect the broad upper part. How symmetrical it is, and yet unsymmetrical! It would be difficult to say for what particular purpose it would be applicable, yet surely, if the mind is stored with such forms as these, their application will follow.

Fig. 121.

For vigorous lines look at the Wild Rose-bud, No. 6, the Currant, No. 26, or the Vine, No. 31; and again, in the next Plate, the Marsh Marigold, Nos. 41 and 49, with its elegant little flower-buds nestling in the hollows of the leaves. Then, also, observe the quaint form of the Horsetail, No. 46, with its frills upon its stem, looking more like a work of art than nature. The Holly-buds, Nos. 2 and 18, have much of the character of the Greek scolloped foliage, and the little buds of En-

dive, Nos. 56 and 60, put one much in mind of the sheaths, in early Acanthus foliage. The Ground Ivy, No. 20, appears as if it might be wrought into a piece of ironwork, so symmetrical is it in form. No. 27, Dead Nettle, is suggestive as the lower portion of a finial. No. 29, Wild Briar, is a quaint but elegant angular form.

The Nasturtium, Nos. 32, 33 and 34, contain some elegant succulent forms in the buds, although the larger leaves are perhaps scarcely applicable to art. No. 35 is a Nasturtium-bud, thrown into a glass of water and allowed to remain there for a day or two, which has the effect of making it curl, and sometimes to assume very beautiful curves. The young leaf of the Sea Ragwort (the *Cineraria maritima* of the gardens), No. 44, is very curious in the way in which it is rolled up; and the buds of the Pilewort Crowfoot, Nos. 52, 57 and 58, with their globular flower-buds, are very charming. This is the lesser Celandine, of which Wordsworth sung: —

> "There's a flower that shall be mine,
> 'Tis the little Celandine."

The bud of Water Cress, No. 53, developes one of its charming little triple leaflets, while No. 54 shews the flower-buds, much enlarged from nature. No. 59 is one of the very young silky leaves of the scarlet Geranium, when folded and plaited in the bud. No. 61 gives the first breaking of the Ivy-bud, indicating a very square crocket-like form.

Thus, as I have endeavored to point out, exist in buds alone, without going further into nature, a vast variety in form and structure, abounding with elegance and beauty.

CHAPTER III.

FERNS.

FERN fronds, more especially when in their young state, have already been mentioned and referred to occasionally in the former part of the Work, and the beauty of their little curled up fronds have been dwelt upon and partially illustrated, so that the present Plate (Plate 64) does not call for any very lengthy description. There are, however, some few points which require mentioning. Although the little spiral heads of Ferns are very lovely, yet the artist must guard against copying or adhering to them too literally, for were he to do so his work, probably, would prove to be tame and insipid. The habit of Ferns having every portion of their foliage curled up in distinct and separate spirals, in addition to the main spirals of the whole frond, causes the foliage to assume too much the appearance of a series of small knobs, giving the whole a soft and undecided effect. This is seen particularly in the common Brake, Nos. 5, 8, 11 and others. They are charming as suggestions, but, like other parts of nature, they must not be too closely followed. The forms require to be amalgamated with other plants which possess sharper and more decided lines.

Another circumstance which produces softness, or want of decision in the outline, is that every part of the frond is curled upon itself — that is, inward instead of throwing the form outwards, as is the case with the spirals of the flowers of the Comfrey and Heliotrope, Nos. 29, 31, Plate 71. This turning inwards upon itself of every part of the Fern frond, will often require modifying. The lines that the Brake assumes in different states, is frequently very elegant, as in the perfect spiral of No. 16, Plate 64; the reversed form of No. 8; the variety of curved lines in No. 28; and the symmetrical arrangement of Nos. 5, 11, 12, 22 and 25, or in its first germinating, Nos. 19 and 27, as seen before it issues from the ground, upon digging it up from among the loose mould. There are many other Ferns which are extremely suggestive, as in the perfect fiddle-head form of the Polypody, No. 15; the charming flow of line in the little Wall Rue, No. 13; the twisted spirals of the favourite little Maiden-hair Fern, No. 7; or the quaint form of the Lady Fern, No. 9, almost reminding us of a carved arm-rest. Two of the little spirals of the Maiden-hair Fern are also shewn at Nos. 24 and 29; its expanded form is given at No. 14. It is introduced in the initial letter of this chapter.

It must be clearly remembered, that nearly all of these examples are very much magnified, so that a person searching for them in nature, may easily overlook them if he is not extremely careful. A score of the little buds, before they are much developed, may be put into an ordinary sized pill-box. The Moonwort, No. 23, has a very beautiful frond, with crescent-shaped divisions and eyes, much after the manner of some Architectural foliage, except that they are pointed at the bottom. A variation worth noticing and occasionally of adopting. It is one of the few Ferns which do not issue with the frond curled up.

Ferns gave the *motif* to the old carvers to much of their foliage, but it is not, perhaps, very easy to recognize this, as they purposely avoided direct imitation. The Brake, however, is to be traced in the foliage of our Anglo-Norman period, as in the example, Fig. 122, from one of the capitals from the crypt of York Minster. If compared with the natural examples, Nos. 11, 12 or 25, the likeness will be sufficiently evident, and as close, probably, as these old carvers would be inclined to make it. There is also a capital in Shoreham Church, Sussex, which is clearly taken from the

Fig. 122.

Fig. 123.

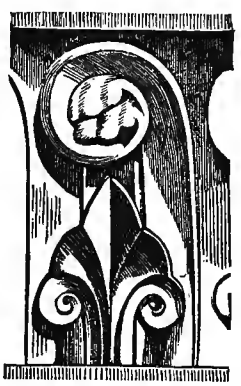


Fig. 124.

Fern tribe. A series of stout fronds are springing from the necking, Fig. 123, with the voluted heads turning over in the upper part of the bell, and a smaller partially expanded frond below. The Brake is also evidently the type of the characteristic curled leaf of the Norman, as in the examples, Fig. 124, but here one part of the leaf is made to turn outwards, instead of the whole curling in upon itself, as is the case in nature. The *crochets* of the Early French capitals, as I have already before mentioned, were probably suggested by the spirals of Fern fronds, combined with the head of the classic leaf or the angle volutes of the Corinthian or Composite Capitals.

CHAPTER IV.

LEAVES.

THE forms of leaves vary from the most simple to the most complicated, yet even in the complicated there is a simplicity of arrangement, which will allow of their being easily altered or adapted to the purposes of ornamentations without losing sight of their original formation. Leaves in their simplest form are plain and undivided, as in the Dock, No. 5,* Plate 65. The margins are cut in various ways, as crenated, No. 26; dentate or scolloped, No. 3; serrated, No. 6; and wavy, No. 22. The general form varies considerably, as heart-form, Nos. 2 and 3; angular, Nos. 8 and 9; round, No. 14; oval, No. 21, besides many other forms. Leaves are divided into separate lobes, as the Water Avens into three round lobes, No. 42, the *Herba Benedicta*, or Blessed Herb, and the type of the Early English foliage; three pointed lobes, as the Ivy, No. 50; three serrated lobes, as in young Hawthorn leaves, No. 46; doubly serrated, as the Guelder Rose, No. 45. Into three distinct leaflets, as the Clover, No. 43; triple-lobed leaflets, as No. 31, which may be still further divided as in Nos. 38 and 40, or divided again into distinct leaflets, as in Nos. 27 and 36.

Leaves are again divided into five lobes, as in the Sycamore, Vine and Maple, Nos. 53, 54 and 62, but plants with five-lobed leaves, will often bear leaves of three lobes at the same time, as in the Celery-leaved Crowfoot, No. 33, which is three-lobed, and Nos. 55 and 58, from the same plant, which are five-lobed. The same thing occurs again in other examples, as in the Ivy, Hop and others. The Bramble, No. 61, is often of three leaflets, but in older leaves divides again and forms five leaflets. The Horse Chesnut is here given, No. 57, of five leaflets, which is often the case in young leaves, but in the older ones they are usually of seven leaflets.

Leaves are many-lobed, as in the Thistle and Acanthus, Nos. 84 and 89. Compound, that is consisting of many leaflets, as in Nos. 65 and 70, and doubly compound, as No. 88. There are other botanical distinctions, such as pinnate — leaflets in pairs as in the Vetch, No. 75; bi-pinnate — as in many Ferns, and a multitude of other terms; but these probably will be sufficient for our purpose.

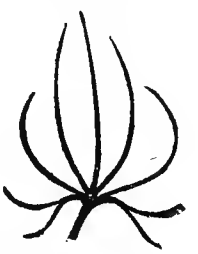
The modelling of the surface of leaves, is a point of very great importance, requiring

* The numbers of the figures run consecutively through the Plates on leaves, Plates 65, 66, 67, 68 and 69.

careful study, and is secondary only to the form of the leaf itself. In fact, the form depends very much upon the judicious and harmonious modelling of the surface, for bad modelling, or coarsely-cut lines on the surface, will interfere with, and destroy the form of the leaf, be it ever so beautiful. Hitherto the modelling, at least in modern times, can scarcely be said to have been studied from nature. The carver has adopted certain conventional ideas upon this point, and he has steadily adhered to them through every form of foliage. Leaves are frequently carved with deep lines or channels, running to the centre of each division of the leaf; no division scarcely ever appearing without its channel. This may appear to be according to nature, because every lobe of a leaf has its own little rib in the network of veins, running towards it for support. But, what is very delicate in nature, has been rendered very coarsely, in modern classic leaves, by the deep channels.

The network of veins in natural leaves is very delicate and beautiful, and gives a vast variety of arrangement in different leaves. As the parallel veins in Grasses; all running in the direction of the length of the leaves, and the parallel veins of the Hart's-tongue Fern, Nos. 1 and 16, issuing diagonally from the mid-rib. The flowing veins of Nos. 9 and 22, and the reticulated veins of No. 3, as well as many others. The lines of the main veins in the leaf of the Black Bryony are very elegant, as indicated by Fig. 125, and put one very much in mind of the lines in the Greek Honeysuckle. Veins are branched, as in the Thistle, No. 84, and many other examples, giving elongated leaves; radiating in straight lines from the base of the leaf, when it assumes a round or palmate form, as the Geranium, No. 81; cut into deep lobes, as the Sycamore, Vine and Maple, Nos. 53, 54 and 62, or the Canariensis, No. 90. When the divisions are cut completely to the base of the leaf, they become distinct leaflets, as in the Horse Chesnut, No. 57. These are all palmate leaves. In some cases the veins are buried up in the fleshy nature of the leaf, as Nos. 14 and 17. There are others where the whole surface is wrinkled by them, as most persons will remember is the case with the Primrose. Although the surface of the leaf is frequently indented or otherwise affected by the veining, still it is more the general contour of the surface which the artist has to study, rather than the minor divisions. It will frequently be an advantage in carving, to omit the minor divisions and veining from the leaf altogether, so as to gain breadth of light and shade.

FIG. 25.



In No. 14, which represents a bunch of Navelwort, drawn just as it was growing on the rock (and which looked like a little carved boss) the leaves are all very simple and round. The modelling of the surface, if I may use the term in reference to nature, is a simple cupping, and the leaves are thick and fleshy. In the Sorrel, No. 21, the edge is rounded over, and the centre of the leaf is delicately channelled and hollowed, running into a deeper hollow towards the point. In the Jack-by-the-Hedge, No. 22, the leaf-stalk is channelled, the hollow of which spreads out into the leaf, rising to a convex surface

towards its point. This is somewhat like Mediæval work, but more gentle and flowing. The Ground Ivy, No. 10, and Pilewort Crowfoot, No. 15, are modelled into a hollow, with the edges slightly turned over, and the lobes, on each side of the stalk, thrown up into light. The Campanula, No. 13, has a flowing hollow from the stalk, and No. 6, an older leaf from the same plant, has the hollow reduced by the edges turning over. Leaves are most naturally concave, or V shaped, towards the junction of the stalk, as seen in the Violet leaf, No. 2, which is otherwise a convex leaf; Hart's-tongue, No. 16, and others. In the London Pride, No. 18, the leaf itself flows out of the stalk, and the hollow glides gently into the leaf with the point and edges turned over. Its profile is shewn at No. 19. In the Daisy, No. 4, the hollow is still more accentuated in the centre of the leaf. The Hart's-tongue, No. 16, has rounded lobes on each side of the foot-stalk; seen again in the Celery-leaved Crowfoot, Nos. 33, 34 and 35. A very elegantly moulded leaf. The leaves of the Columbine, No. 28, have charmingly rounded and flowing forms. In the Water Cress, No. 77, the leaflets are slightly bulbed in the centre.

In the more compound leaves, the modelling often gets complicated, as Nos. 70 and 83. In the last, the Yellow-horned Poppy, the lower lobes, next the mid-rib, are well thrown up into light while the upper portions are in deep shadow. The Thistle leaf, given at No. 84, is mostly hollowed, but this is a simple specimen, selected as being applicable to carving and decoration. There are a great variety of Thistles, many of them displaying the most complicated light and shade. The Water Parsnip, No. 65, has a good effect from the lapping leaflets.

We see in nature a great abundance of the hollow leaf, from the fact that one of the functions of the leaf, is to collect the rain and carry it by its channels to the plant itself. Convex forms can, however, be equally studied from nature by observing the backs of the leaves, which offer most excellent examples of modelling. Nos. 9 and 17 represent the backs of leaves. There is frequently, also, great beauty in their profiles, as Nos. 11, 12, 20 and 60. Many leaves in nature are comparatively flat; as Nos. 62 and 64, the Maple and Flowering Currant. Flat carving, in sculpture, without much undulation of the surface, is most valuable. As a rule, it should never be over-modelled on the surface, but kept simple and with just sufficient flow to prevent its looking stiff and formal. There should also be variety, as in nature. Unfortunately, modern carvers cannot understand simplicity of modelling, and they ruin their leaves by lines and deep shadows.

Leaves in nature are frequently set at an angle with the foot-stalk, as shewn by the profile of the Ground Ivy leaf, No. 11, and carving is made, sometimes, to look very tame and unnatural, in this respect, by keeping them too much in a line with each other. Other leaves have the foot-stalk attached to the back of the leaf, as in the Geranium, No. 81, and the Canariensis, No. 90. A small branch of Water Cress is represented at

No. 72, forming a most perfect spiral, with the leaves thrown off at angles from it. This is not the natural growth of the Water Cress, but it has assumed this form from its having been plunged and kept in water for a few days, in the same way as was mentioned with the bud of the Nasturtium, No. 35, Plate 63. Many plants will assume most interesting curves upon being treated in this manner.

CHAPTER V.

The Acanthus.

MOST early nations, in their foliage, endeavored to copy nature as closely as they were able. They had no idea of doing it in any conventional manner. They had but one way of rendering it, and that was in their own way, which was to the best of their ability. The Assyrians, in their sculptures, have introduced many examples of foliage. Among others there are the Vine and the Fig, with their fruit; the Palm, with its imbricated stem, very beautifully sculptured; a sort of Tree Fern; the Fir and the Lily. There is also a tall grass-looking plant, growing in thick masses, with alternate and sheathed foliage, which is, probably, meant for Millet — a grass much grown in the East, and the seed of which is extensively used for bread. It is not at all unlikely that it was thus used in the time of the Assyrians.

But the whole are represented on one flat plane, and they appear to have had no other way of rendering them. Like their figures, they are all in profile. Moreover, the flower of the Lily, which appears growing out of the ground, is exactly of the same character as those which are introduced in more strictly architectural decoration of wall surface, and one Lily is not any more natural than the other.

The discovery of the Assyrian sculptures has added a most important and interesting link in the early history of Art, throwing much light upon the origin of Greek architecture. Early Art, there cannot be a doubt, travelled and spread through Asia Minor to Greece. The Greeks had very early and constant communication with that country, and we see by the Etruscans, who were an Asiatic people who emigrated from Lydia, in Asia Minor, twelve or thirteen centuries B. C., how closely the Greek must have resembled Asiatic Art. Probably, there are still existing in Asia Minor, architectural remains, which, could they be brought to light, would yet supply many points of the utmost interest between Greek and Assyrian architecture.

Although I can find no trace of what has been called the Acanthus leaf among the Assyrian sculptures, yet I believe that it was, in some way or other, handed down to the Greeks, but in a very imperfect state. Future researches will perhaps shew that it was so. The Greeks worked upon the leaf earnestly, with their own peculiar and wonderful eye for the beautiful, and with an occasional reference to nature. Aiming more at the true spirit, and adopting certain principles in nature, rather than confining themselves to a servile imitation of any particular leaf or plant. The leaf is as much like the Thistle,

if not more so, than the Acanthus; but it is also like the common Holly, Endive and the Sea Holly. Yet I cannot say that the Greeks ever saw Endive or the Sea Holly, still this only proves the case more clearly, for if they did not see these plants they must have seen others which contained the same forms and principles. Nature is always repeating herself, and the same forms will occur, over and over again, in different plants which have no relation to one another.

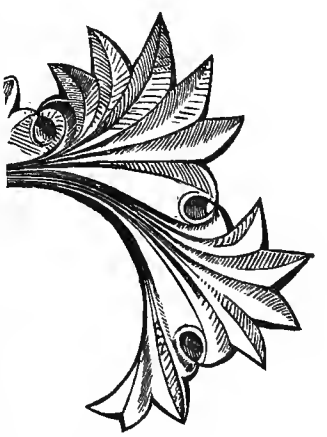
The idea of the Greeks in the treatment of the Acanthus leaf, was to produce a *perfect leaf*, a thing which cannot possibly be found in nature — nor can a perfect human form be found. Never did a human form contain all the perfections that the Greeks put into their figures, although Byron has said: —

> "I've seen much finer women, ripe and real,
> Than all the nonsense of their stone ideal."

But that was only his opinion. The Greeks sought to perfect their figures according to their own ideas — they studiously culled the beauties from the living form, and took various portions from separate figures to make one complete and perfect form. So it was with their foliage, they did not adhere to one particular type, but sought the beauties of many to bring their favourite leaf to perfection. I maintain, most distinctly and decidedly, that this is still the only true mode of proceeding, and the only way in which decorative foliage can ever be lifted out of its present degraded position.

The Acanthus foliage of the Classic has never been sufficiently studied; and as seen in books is very seldom correctly drawn. I must be excused, therefore, if I dwell a little upon the subject, because it is an important one. The foliage of the Greeks has had a decided influence upon every style of architecture, at least in Europe, since their time to the present day, not excluding the Mediæval; and, probably, it will continue to exert an influence upon our architecture for many years to come. To trace the Acanthus foliage in its earliest developments, and through its various later ramifications, would require a whole volume in itself, as well as a vast amount of time and careful research. I will, however, by the aid of a few diagrams, compare some of its most marked characteristics at different periods of art.

Fig. 127.



In the Early Greek the outline of the lobes of the Acanthus leaf partook very much of a zig-zag line, the eyes separating the lobes were circular, and the moulding of the surface is simply worked into a slight V section, as shown by Fig. 126, from a Stele at Athens, apparently of early workmanship. In the monument of Lysicrates, at Athens, the date of which is known to be 335 B. C., much the same character is preserved; but the lines are more flowing, the outline is more *spiky*, and the work has apparently a very high degree of finish. Fig. 127

Fig. 126.

is part of the husk out of which spring the very beautiful scrolls on the roof of the monument.

If these examples, which present the type of the Greek Acanthus foliage, are compared with the natural leaf of the *Acanthus mollis*, at No. 89, Plate 69, from which this foliage is said to be taken, the likeness will not be found very striking. It is much like several kinds of foliage, without being a copy of any one example in particular. Compare it with the Thistle, No. 84, which appears to have the zig-zag outline. We have the sharp, spiky lobes again in No. 85, the *Grevillea Acanthifolia*, an example obtained from Kew Gardens, and drawn double the natural size. From what country this plant has been obtained I am not at all aware. In the Sea Holly, Nos. 66, 67 and 68, which is the representation of one leaf in different positions, the head of the Acanthus leaf, as it turns over, is seen to be a perfectly natural formation. These examples serve to shew that the Greeks adopted the characteristic features of natural foliage, growing with sharp-pointed divided lobes, as the Acanthus and Thistle, joined to the curved head of the leaf of the Sea Holly, and that they invariably represented sharp, prickly foliage.

There is also another kind of foliage in the Greek, but which still adheres to the sharp-lobed. I refer to the hollow or scolloped leafage, as seen in the husks of the Lotus, in the Anthemion ornament from the Erechtheum, but which is still more distinct and sharper still, in the smaller sheaths from the scroll upon the roof of the Monument of Lysicrates. This form of foliage was probably taken from the common Holly, or from some other plant with sharp, scolloped foliage. The spiral form may have been suggested by the flowers of the Heliotrope, No. 31, Plate 71. There is also a Holly-leaved enrichment in the large doorway from the Erechtheum.

The sharp foliage of the Greeks is never found in Roman foliage. What is called the Acanthus leaf of the Romans, is as different as possible from the Acanthus of the Greeks. In the Roman, all the lobes are rounded, and the moulding of the surface of the leaf is extremely violent. The part in which the eye occurs, forming the main divisions of the leaf, being sometimes worked up almost like a pipe, as shewn by Fig. 128, a portion of one of the leaves from the capital of Mars Ultor, at Rome; and also, by Fig. 129, from the capital of Jupitor Stator, at Rome. Now these, with the Greek, form two very distinct and separate types of what is called the Classic Acanthus foliage.

Fig. 128.

Fig. 129.

There is, however, another variety of foliage in the Roman, some

of which is said to be of Greek workmanship. I allude to the very rich friezes from the Trajan forum at Rome, and the frieze and pilaster preserved at the Villa Medici, and other examples of the same class. This foliage appears to be taken from the soft-lobed leaves, such as the Chrysanthemum, No. 71, Plate 68; the Red Poppy, No. 76; the Yellow-horned Poppy, Nos. 83, 87, Plate 69; or others of similar character. The lobes are not exactly round, but the points are obtuse and soft, and like the natural Chrysanthemum leaf, each lobe has sub-lobes, besides other still more minute divisions. In these examples, we have wonderful skill and elaboration with exaggerated foliage. Long sheaths covering up the stems, with six or seven lobes of minutely divided leafage, and flowers in the centres of the scrolls, which are more remarkable for their extravagance and intricacy than their beauty.

We have, then, two principal antique types of the Acanthus — the sharp and spiky-lobed foliage of the Greeks, and the round and soft-lobed of the Romans.

In the styles which arose after the commencement of the Christian Era, the ancient Greek appears to have been the type followed for the foliage of the Byzantine, or Eastern art, while the Roman gave its colouring to the foliage of the Romanesque, or Western art. There can be no doubt that when the Emperor Constantine set up his government in the Grecian City of Byzantium, to which he gave the name of Constantinople, three hundred and thirty years after the birth of Christ, that the people still retained some of their original feeling for Greek art. During the reign of the Emperor Justinian, the large church of Santa Sophia was erected, and the foliage, especially of that building, possesses a strong resemblance to the sharp foliage of the Antique Greek. Mr. H. Gally Knight, in his *Ecclesiastical Architecture of Italy* says, that "an entirely new form for churches was, at an early period, introduced at Constantinople. The oblong was shortened to a square, with a view to the noble addition of the dome, which the Byzantine architects had now learnt how to support. This plan, especially after the creation of Santa Sophia, became a favourite in the East, and was adhered to, in those parts, with the greater tenacity, in consequence of the schism which subsequently took place between the Pope of Rome and the Patriarch of Constantinople. There was to be a difference in everything. The Greeks insisted upon the square form of their own inventions, whilst all the nations who continued to acknowledge the supremacy of the Pope continued to employ the long form, which was persevered in at Rome."

Fig. 130.

Thus, among other differences, there was a marked difference made in the foliage. The Byzantines erected other churches at Constantinople, as the church of St. John, which perhaps is earlier than that of Santa Sophia. Fig. 130, is a portion of a leaf of one of the capitals from St. John's, taken from Salzenburg's work on the

Churches of Constantinople, giving a very peculiar form of double leaf. Fig. 131, is from a cast of a Byzantine capital from the South Kensington Museum, which has angle leaves of precisely the same kind. Probably a cast from a capital at Constantinople.

Fig. 131.

A peculiarity of these leaves, also, is the square or split points to the termination of the lobes. The Byzantines erected churches at Jerusalem, under Justinian, but of which little more than one fragment is supposed to be remaining; known as the Golden Gateway. This has been ably illustrated and described by Comte de Vogüé, in his work, lately published, on the *Temple of Jerusalem*. Fig. 132 gives one of the leaves of the capitals from the Basilica of Justinian taken from the above work, which has a strongly marked Greek character.

Fig. 132.

The Venetians built in the Byzantine style, and imported architects from Constantinople, who furnished the designs for the Church of St. Mark. The foliage here still retained the Greek type, although of the tenth century. In all these we see the Greek sharp foliage plainly apparent, with the V-formed section of the leaves, but there is an arrangement in the lobe of the leaf which appears to belong to the Byzantine. This is the drawing down of the eye in the direction of the ribs of the leaf, and raying, as it were, the lower lobes against the plain line of the upper portion. *See* Figs. 130 and 131.

Fig. 133.

Fig. 134.

In the Early architecture which followed the Roman, the foliage retained the round lobe — although there are many cases where it is evident that there has been a Byzantine influence acting upon it. This may be distinctly seen in our own Norman, although the leafage departs from the Corinthian form, and partakes more of the strap foliage — that is, long stems, with foliated terminations. In the early French capitals of the eleventh and twelfth centuries we see again the classic type of Romanesque foliage, as shewn by Fig. 133. In the foliage of the

Choir and Trinity Chapel of Canterbury Cathedral, which is precisely of the same character as the early French, without almost a single exception, the foliage will be found to be entirely round-lobed. Fig. 134, which is from a capital in the South Transept of Canterbury Cathedral, is precisely of the same character as the leafage from Mars Ultor, at Rome, Fig. 128.

We see at Canterbury, too, the Corinthian leaf as split up into leaflets, instead of lobes, but still attached to the centre stem. From this it passed into the Early English and the leaf was divided into separate parts, forming distinct leaves, but the round lobes were still conspicuous, through the whole of the foliage of the thirteenth century, until the conventional leafage was thrown aside, and foliage was taken more directly from nature ; but until that was the case, the Classic feeling retained its hold and exerted an influence upon the whole of the foliage of the Early Gothic period.

CHAPTER VI.

FLOWERS.

OF all things which exist in nature, flowers, perhaps, are the most universally allowed to be beautiful. The variety of their bright and lovely colours with their great difference and elegance in form, united to the exquisite odours which many of them possess, have recommended them from time immemorial, most powerfully to our senses. As an old writer has truly said, "their use is much in ornament and comforting the spirites by the sense of smelling."

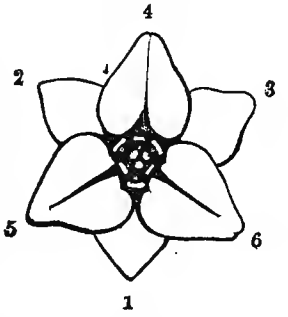
Where can we see a scale of colours, such as we find in flowers? Colours of the brightest hues, as in the Scarlet Geranium — the brightness and intensity of which is so great when compared with our own pigments, that it will make them look like mere brickdust. Other colours in nature are of the most exquisitely soft and subdued tones, as in the Tea Rose. Then again, we have the most charming mixtures, combinations and contrasts, as the yellow, purple, and white of the *Gilia tricolor* — the purple, orange, and green of the Woody Nightshade, and many others. How beautifully the greens of the leaves of plants are made to harmonize with the colours of their flowers? The bright green leaves of the yellow flowers, the dull neutral greens of the blue flowers, and the reddish-green leaves of the red flowers, all shew from what consummate palette the various combinations have proceeded. I cannot here go into the subject of colour in flowers as applicable to art, but, I am sure, it would amply repay any one for doing so, and we should add much to our knowledge of colour and its proper use if the subject was carefully explored.

The forms of flowers are very various, but they are mainly divided between those which radiate from a centre, as in the common Daisy, and those which are symmetrical or alike on each side of a centre line, such as the Pea and Bean. The first of these divisions, the radiating, are the flowers which are mostly used in art decoration, and to which my observations will be principally confined.

Flowers which radiate from a centre are often formed, in the most beautiful manner, upon the triangle, the square, the pentagon, the octagon and other regular figures, and the precision and regularity, with which this disposition is sometimes carried out is

very remarkable. The triple arrangement of the White Lily, No. 1, Plate 70,* is very regular. It consists of, externally, three sepals forming the calyx or envelope of the flower, numbered 1, 2, 3, in the diagram Fig. 135; alternating with the sepals, are the petals of the flower, numbered 4, 5, 6, the arrangement suggesting the form of the six-pointed star or double triangle. The entire formation of the flower is triangular. The pistil or seed vessel, which is in the centre, is triangular, having around it two sets of stamens of three each, alternating with each other, and with the petals of the flowers, as indicated in the diagram, Fig. 135. Their natural appearance being shewn in No. 1, Plate 70. This represents the flower as seen in front, while No. 3 is a profile of the same flower. No. 2 shews the bud of the Lily, as seen endwise, and just beginning to expand. It indicates again the beautiful triangular arrangement.

Fig. 135.



There are many other flowers which are formed upon the same principle, and which offer great variety in their general contour, as, for instance, the Wood Anemone, No. 9, and the Crocus, Nos. 13 and 14; also the Snowdrop, the Daffodil, the Tulip, the Jonquil and the Iris. It is perhaps, somewhat singular that these are all early spring flowers — the Crocus and the Snowdrop being the first to thrust forth their blossoms, to show that winter is departing; thus appearing to answer to their simple and primary arrangement upon the triangle, the first rectilineal figure, by their being the first to expand their forms upon the re-awakening of nature. Their triune formation, which gave them an emblematical meaning, caused them to become great favorites with the Mediæval artists. The Iris or Fleur-de-lis — which has three petals turning up and meeting in the centre, while the other three, alternating with them, turn downwards in a very elegant and graceful manner — was the type of many of the conventional forms of the Anglo-Norman and Early English foliage. The Wood Anemone has a very beautiful triple arrangement. It has an involucre of three triply-divided leaves issuing at one point, about two inches below the flower, which, when seen above, as here represented, (No. 9) combines with the flower itself. The forms on the Plate are taken strictly from nature, although they are arranged in a more symmetrical manner. The flower consists of six petals, alternating as in the Lily. The leaves of the involucre again alternate with the petals. The triangular arrangement of the Crocus is seen in No. 14, and the flower is represented at No. 13. The flower of the Marsh Mallow has a triangular calyx, No 4, and the involucre of the Sea Holly, No. 15, consists of two sets of leaves of three each, but sometimes not very regularly disposed.

Flowers of four petals are not numerous; many of them are very small, and often appear in bunches and clusters, forming the natural order "Cruciferæ," and are mostly

* The numbers referring to the flowers run consecutively through Plates 70 and 71.

the flowers of the Cresses in our gardens. The Willow Herb, No. 20, is a four-petalled flower, having four heart-formed revolving petals, and the end of the pistil formed into a cross in the centre — and the Viginian Stock, No. 28, has four heart-shaped petals. The Fuschia, No. 11, is also a quadrangular flower, but the minute flowers of the Rue are beautifully arranged upon the square form. The bud of the flower as seen at No. 19, highly magnified, shews the four petals folded, and the four points of the calyx. No. 21 gives the flower fully expanded, and shews its cruciform arrangement. In the centre is the four-lobed ovary or seed vessel, from the base of which spring eight stamens, under four of which issue the four petals of the corolla, and intermediately with them the four sepals of the calyx. The petals are hollow, with the edges folded, and in the hollows lie four of the stamens. In profile one of the petals is shaped almost like a Gothic crocket. Although so minute, and so utterly insignificant to the naked eye, yet when looked into and examined with a powerful glass, it is one of the most quaint and interesting flowers which can be met with. It looks as if it were a flower fashioned for the gardens of the middle ages, and one of the favourites handed down to us by the Monks of old, who gave it the name of the Herb of Grace. The seed vessel No. 5, Plate 72, when dry opens into an elegant little quatrefoil.

By far the most common number of petals in flowers is five, as in the common Briar and Dog Rose. The Primrose, No. 17, has five heart-shaped petals with their edges lapping. The Chinese Primrose, No. 8, is a variation upon the same form. The Sweet William, No. 18, has five petals with serrated edges. The Cinquefoil, No. 25, has the heart-shaped petals prettily separated, shewing the dark green calyx in the interstices. The Stitch-wort, No. 40, has the petals nearly divided down to the centre. The Mallow, No. 24, is another elegant variation upon the heart-shaped petal. The Woody Nightshade, No. 23, when the petals are extended flat, gives a most perfect five-pointed star. In the Garden Convolvulus, No. 34, the pentagonal form is very beautifully developed, and the scarlet five-pointed star is charmingly inlaid on the rich purple ground. The Periwinkle, No. 33, is divided into five revolving petals, which are still more revolved in the Hollyhock, No. 16. The Campanula, No. 37, is a very regular cinquefoil, and the Columbine, No. 36, has peculiar horn-shaped petals, as shewn in the profile, No. 32. The Buttercup, No. 12, is a five-petalled flower having a very elegant calyx, the sepals of which turn back upon the stem.

The Marsh Marigold, No. 10, has a six-petalled flower. The Pilewort Crowfoot, No. 42, has eight petals with a triple calyx, and the Coreopsis, No. 38, has eight petals, each with triple ends. Nos. 5 and 22, the Dog Violet and Scarlet Geranium, each have five petals, but radiate irregularly. Nos. 26 and 27 give the elegant buds of the Greater Bindweed, shewing the beautifully swelling calyx. Nos. 29 and 31 represent the spiral growth of Comfrey and Heliotrope, of which I have already spoken. No. 39 gives the elongated form of the calyx of the Pink tribe. No. 35 represents the peculiar flower, enclosed within its spathe, of the Cuckoo Pint or *Arum Maculatum*. It has no corolla,

but the stamens stand up within the hood in an oblong oval spike, and the ovary is concealed below. When the spathe and stamens fade away, the seeds enlarge and form into a compact bunch of red berries. This plant is said by M. Viollet-le-Duc, "to have inspired our sculptors from a very early epoch." I have not, myself, observed any indications of its introduction in early work in this country, but it is evident that in later work — of the fifteenth century — it formed the *motif* of many of their flowers. Fig. 136 represents a flower, which is of the arum tribe, from Swaffham Church, Norfolk. It has an elongated seed vessel, growing out of and enclosed within a species of spathe. There are many other flowers in "Perpendicular" work of the same type, consisting of a large seed, surrounded and growing out of foliage, and most probably they were taken from the Arum.

Fig. 136.

CHAPTER VII.

FRUIT.

IN speaking of fruit it is advisable to adopt the botanical plan of calling all seeds, berries and other forms of fructification by the general name of fruit; thus bringing under one head all berries and seeds, as well as fruit, as more commonly understood. In the Renaissance and Italian styles, it was common to introduce large bunches and massive swags of various kinds of fruit, strung together with leaves in the most artificial and inartistic manner. It is far better to introduce fruit as naturally belonging to the foliage that it accompanies, and for its beauty or opposition of form.

In Mediæval decoration, fruit is not much introduced among foliage. The Maple is sometimes accompanied by its winged seeds, and the Thorn by its berries. The Oak is frequently shewn with its Acorns, and the Vine with the Grapes, sometimes also Nuts are introduced with the Hazel. Beyond this, fruit is seldom seen; but there can be no reason, if the fruit will add to the beauty of the work, why it should not be introduced more frequently.

No. 1, Plate 72, gives the fruit of the Hop, formed with imbricated scales. No. 2, is one of the seeds of Henbane. They are elegant in form and are very ornamental as seated upon the flower-stalk; a portion of which is shewn at a smaller scale at No. 10. No. 3, is a small Fir Cone shewing its moulded imbrication. No. 4, are the hips of the Wild Rose. No. 5, the opened seed vessel of the Rue, enlarged, shewing its quadruple arrangement. The branch with seeds is given at No. 9. No. 6, is the little seed of the Ivy-leaved Toadflax. Nos. 7 and 12, are the berries of the Hawthorn, so frequently introduced in carvings of the fourteenth century. No. 8, the triple seeds of the Spurge. There are several varieties of Spurge, all very elegant and well deserving of study. No. 11, the seed of the *Arborvitæ*, a form which might be conventionalized very ornamentally. No. 13, the little four-parted seed of the Ragged Robin. No. 14, the seed of the Stitchwort. The manner in which the edge turns over round the opening at top is worth noticing. No. 15 is a section through the seed vessel of the Iris, shewn at No. 16. Its triple and triangular form answers to the triple formation of the flower. The Lily tribe also have triple seeds of a very similar character. The Thorn Apple is divided into four

cells, as shewn by the section Fig. 137, and forms a very complete quatrefoil. No. 17, the fruit of the Spindle Tree, has also a quadruple form. The woodcut, Fig. 138, the Star Aniseed, is divided into eight divisions. No. 18 is one of the seeds of the common Dock, magnified, and No. 19 is the seed of the Hornbeam, of a somewhat similar character. The seed lies naked in a triple leaf-like receptacle of good form, which might be turned to advantage. No. 20, one of the berries from the Mountain Ash which hang in large clusters and look so ornamental during autumn. No. 21, the dry seeds of the Sweet Pea, showing the manner in which it twists, as already noticed in a former part of the work, and its resemblance to the twisted bead and ribbon. No. 22, Wheat; always a beautiful form, and worthy of being much oftener introduced into carving and decoration.

Fig. 137.

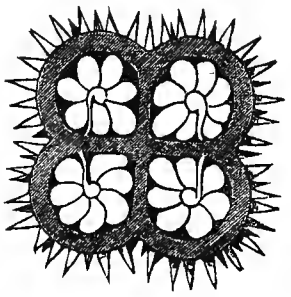
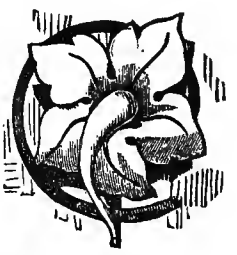


Fig. 138.

No. 23 is the long awn, or "horn" of the yellow-horned Poppy, from which no doubt it derives its name. The awn often begins to grow before the petals of the corolla drop off, and when in this state it looks extremely like many of the flowers of the Renaissance period, Fig. 139, which so frequently have long pods or awns growing out of their centres. No. 24, one of the seeds or "cheeses" of the Mallow, a very beautiful yet simple form, well worthy of being adopted as a type for ornamentation. No. 25, a Horse Chesnut, shewing its triple division when bursting. Probably the "decorated" Ball-flower was taken from the Horse Chesnut when in this state. No. 26, the elegant winged seeds of the Sycamore. Nos. 27 and 28, the triple seed of the Nasturtium, and No. 29, a triple bunch of Hazel Nuts.

Fig. 139.



I have thus given Examples, all drawn scrupulously from nature, while in the bud, the leaf, the flower and the fruit, most of which have been used while designing the Plates given in the second part of the work, and will be there found conventionalized in some way or other. They form, however, but a very small part of what I have drawn for the purpose of study, since I commenced the present work. The work has, however, far exceeded my original intention, or I would gladly have given a greater number of Examples from nature. Imperfect as it is, I still hope that it may be of some use to the artist, the sculptor, the decorator, and the manufacturer, and induce them to examine, draw, dissect and study nature for themselves.

LIST OF NATURAL EXAMPLES,

CONTAINED IN THE FOLLOWING PLATES, AND WHICH HAVE BEEN MOSTLY USED IN THE COMPOSITIONS, PART II.

BRANCHING.

	Plate.	No.
Maple and Hawthorn	61	

BUDS.

	Plate.	No.
Wild Mint	62	1
Holly	"	2
Parsley, with seed leaves (enlarged)	"	3
Wild Mint	"	4
Lilac	"	5
Wild Rose	"	6
Rampion (enlarged)	"	7
Wild Mint	"	8
Chrysanthemum (flower bud) . .	"	9
Celery-leaved Crowfoot . .	"	10
Rampion	"	11
Rue (profile, enlarged) . .	"	12
Ditto (front of same, ditto) . .	"	13
Ditto (much enlarged) . .	"	14
Ditto ditto	"	15
Celery-leaved Crowfoot . .	"	16
Radish	"	17
Holly	"	18
Horse Chesnut	"	19
Ground Ivy (enlarged) . .	"	20
Wood Anemone	"	21
Celery (enlarged)	"	22
Wild Mint	"	23
Ash	"	24
Maple	"	25
Currant (enlarged)	"	26
Dead Nettle	"	27
Ash	"	28
Wild Briar	62	29
Currant (enlarged)	"	30
Vine (enlarged)	"	31
Nasturtium (enlarged) . .	63	32
Ditto ditto	"	33
Ditto ditto	"	34
Ditto ditto	"	35
Dog Wood (enlarged) . . .	"	36
Ditto ditto	"	37
Ivy (much enlarged) . . .	"	38
Water Cress	"	39
Dog Wood (enlarged) . . .	"	40
Marsh Marigold, with flower buds .	"	41
Elder	"	42
Ivy (enlarged)	"	43
Sea Ragwort	"	44
Ivy (much enlarged) . . .	"	45
Horse Tail	"	46
Dog Wood (enlarged) . . .	"	47
Ditto ditto	"	48
Marsh Marigold, with flower buds .	"	49
Ivy (enlarged)	"	50
Dog Wood (enlarged) . . .	"	51
Pilewort Crowfoot, with flower bud	"	52
Water Cress	"	53
Ditto, flower buds (much enlarged)	"	54
Ivy (enlarged)	"	55
Endive	"	56
Pilewort Crowfoot	"	57
Ditto	"	58
Geranium	"	59
Endive	"	60
Ivy (enlarged)	"	61
Sycamore, flower bud . . .	"	62

FERNS.

YOUNG FRONDS.

	Plate.	No.
Brake (enlarged)	64	1
Ditto	"	2
Ditto (profile of No. 2)	"	3
Hard Fern	"	4
Brake (enlarged)	"	5
Shield Fern (enlarged)	"	6
Maiden-hair Fern (much enlarged)	"	7
Brake	"	8
Lady Fern	"	9
Shield Fern	"	10
Brake (enlarged)	"	11
Ditto ditto	"	12
Wall Rue (magnified)	"	13
Maiden-hair Fern	"	14
Polypody (four times the natural size)	"	15
Brake	"	16
Scaly Spleenwort	"	17
Ditto	"	18
Brake	"	19
Maiden-hair Spleenwort	"	20
Lady Fern	"	21
Brake	"	22
Moonwort	"	23
Maiden-hair Fern	"	24
Brake	"	25
Ditto	"	26
Ditto	"	27
Ditto	"	28
Maiden-hair Fern (much enlarged)	"	29

LEAVES.

SIMPLE.

	Plate.	No.
Hart's Tongue (young frond, enlarged)	65	1
Dog Violet	"	2
Weed	"	3
Daisy	"	4
Dock	"	5
Campanula	"	6
Vetch (stipule, enlarged)	"	7
Goosefoot	"	8
Bindweed	65	9
Ground Ivy	"	10
Ditto (profile)	"	11
Campanula (profile)	"	12
Ditto	"	13
Navelwort	"	14
Pilewort Crowfoot	"	15
Hart's Tongue (young frond)	"	16
Mother-of-Thousands (back of leaf)	"	17
London Pride	"	18
Ditto (profile)	"	19
Marsh Marigold (profile)	"	20
Sorrel	"	21
Jack-by-the-Hedge, or Treacle Mustard	"	22
Avens (stipules)	"	23
Acacia (leaflet)	"	24
Mountain Ash (stipules, enlarged)	"	25
Rampion	"	26

TRIPLE.

Fumitory	66	27
Columbine	"	28
Triple-leaved Potentilla	"	29
Hawthorn (young leaf)	"	30
Adoxa Moschatellina	"	31
Avens	"	32
Celery-leaved Crowfoot	"	33
Ditto	"	34
Ditto (three-quarter leaf)	"	35
Wall Rue	"	36
Hawthorn and stipules	"	37
Parsley	"	38
Celery-leaved Crowfoot	"	39
Creeping Crowfoot	"	40
Oxalis (folded)	"	41
Water Avens (*Herba Benedicta*)	"	42
Clover	"	43
Wood Strawberry	"	44
Guelder Rose	"	45
Hawthorn (young leaf)	"	46
Oxalis (open)	"	47
Hop	"	48
Wood Strawberry	"	49
English Ivy	"	50

	Plate.	No.
Tulip Tree	66	51
FIVE LOBED.		
Cinquefoil (five leaflets)	67	52
Sycamore	"	53
Vine	"	54
Celery-leaved Crowfoot	"	55
Dove's-foot Crane's-bill	"	56
Horse Chesnut (young leaf, of five leaflets)	"	57
Celery-leaved Crowfoot (old leaf)	"	58
Ivy-leaved Toadflax	"	59
Wood Anemone (profile)	"	60
Bramble (five leaflets)	"	61
Maple	"	62
Wood Anemone	"	63
Flowering Currant	"	64
COMPOUND LEAVES.		
Water Parsnip	68	65
Sea Holly (front)	"	66
Ditto (profile)	"	67
Ditto (head)	"	68
Ditto (dry leaf)	"	69
Cow Parsnip	"	70
Chrysanthemum	"	71
Water Cress (curled branch)	"	72
Groundsel	"	73
Sea Holly (half expanded)	"	74
Vetch	"	75
Red Poppy (part of leaf)	"	76
Water Cress	"	77
Sea Spurge (top of branch)	"	78
Ditto (simple leaves, cruciform)	"	79
Sea Ragwort (cultivated)	"	80
Scarlet Geranium (many-lobed leaf)	69	81
Cardamine or Lady's Smock	"	82
Yellow-horned Poppy	"	83
Thistle	"	84
Grevillea Acanthifolia (twice the natural size)	"	85
Celandine	"	86
Yellow-horned Poppy (young leaf)	"	87
Fool's Parsley	"	88
Acanthus Mollis	"	89
Canariensis (seven-lobed)	69	90
Yellow-horned Poppy (sessile leaves of the stem)	"	91

FLOWERS.

	Plate.	No.
White Lily (front of flower)	70	1
Ditto, end of flower bud, opening	"	2
Ditto, profile	"	3
Marsh Mallow (calyx after the petals have fallen off)	"	4
Dog Violet	"	5
Marsh Mallow (flower bud)	"	6
Fuschia (bud)	"	7
Chinese Primrose	"	8
Wood Anemone, with involucre of three leaves, symmetrically arranged	"	9
Marsh Marigold	"	10
Fuschia	"	11
Buttercup (shewing under side of flower)	"	12
Crocus	"	13
Ditto (looking down)	"	14
Sea Holly, with involucre	"	15
Hollyhock	"	16
Primrose	71	17
Sweet William	"	18
Rue (flower bud, enlarged)	"	19
Willow Herb	"	20
Rue (flower symmetrically arranged, very much enlarged)	"	21
Scarlet Geranium	"	22
Woody Nightshade (enlarged and laid flat)	"	23
Mallow	"	24
Cinquefoil	"	25
Greater Bindweed (flower bud)	"	26
Ditto (more advanced)	"	27
Virginian Stock	"	28
Comfrey (shewing the spiral growth)	"	29
Ditto (plan of floret)	"	30
Heliotrope (shewing the spiral heads)	"	31
Columbine (partially expanded flower)	"	32
Periwinkle	"	33

	Plate.	No.
Convolvulus	71	34
Arum maculatum, or Cuckoo Pint (enclosed within its spathe)	"	35
Columbine (front of flower)	"	36
Campanula	"	37
Coreopsis	"	38
Pink bud	"	39
Stitchwort	"	40
Pilewort Crowfoot (flower partially expanded)	"	41
Ditto (back of flower)	"	42

FRUITS.

Hop	72	1
Henbane	"	2
Fir Cone	"	3
Wild Rose	"	4
Rue (looking down upon the seed vessel, enlarged)	"	5
Ivy-leaved Toadflax	"	6
Hawthorn	"	7
Spurge	72	8
Sprig of Rue (in seed)	"	9
Henbane (reduced)	"	10
Arborvitæ	"	11
Hawthorn (berries)	"	12
Ragged Robin	"	13
Stitchwort	"	14
Iris or Fleur-de-lis (section through seed vessel)	"	15
Ditto (seed vessel)	"	16
Spindle Tree	"	17
Dock (enlarged)	"	18
Hornbeam	"	19
Mountain Ash	"	20
Sweet Pea (dried pods)	"	21
Wheat	"	22
Yellow-horned Poppy	"	23
Mallow	"	24
Horse Chesnut (bursting, reduced)	"	25
Sycamore	"	26
Nasturtium (profile)	"	27
Ditto (top of seed)	"	28
Hazel Nuts	"	29

END OF PART III.

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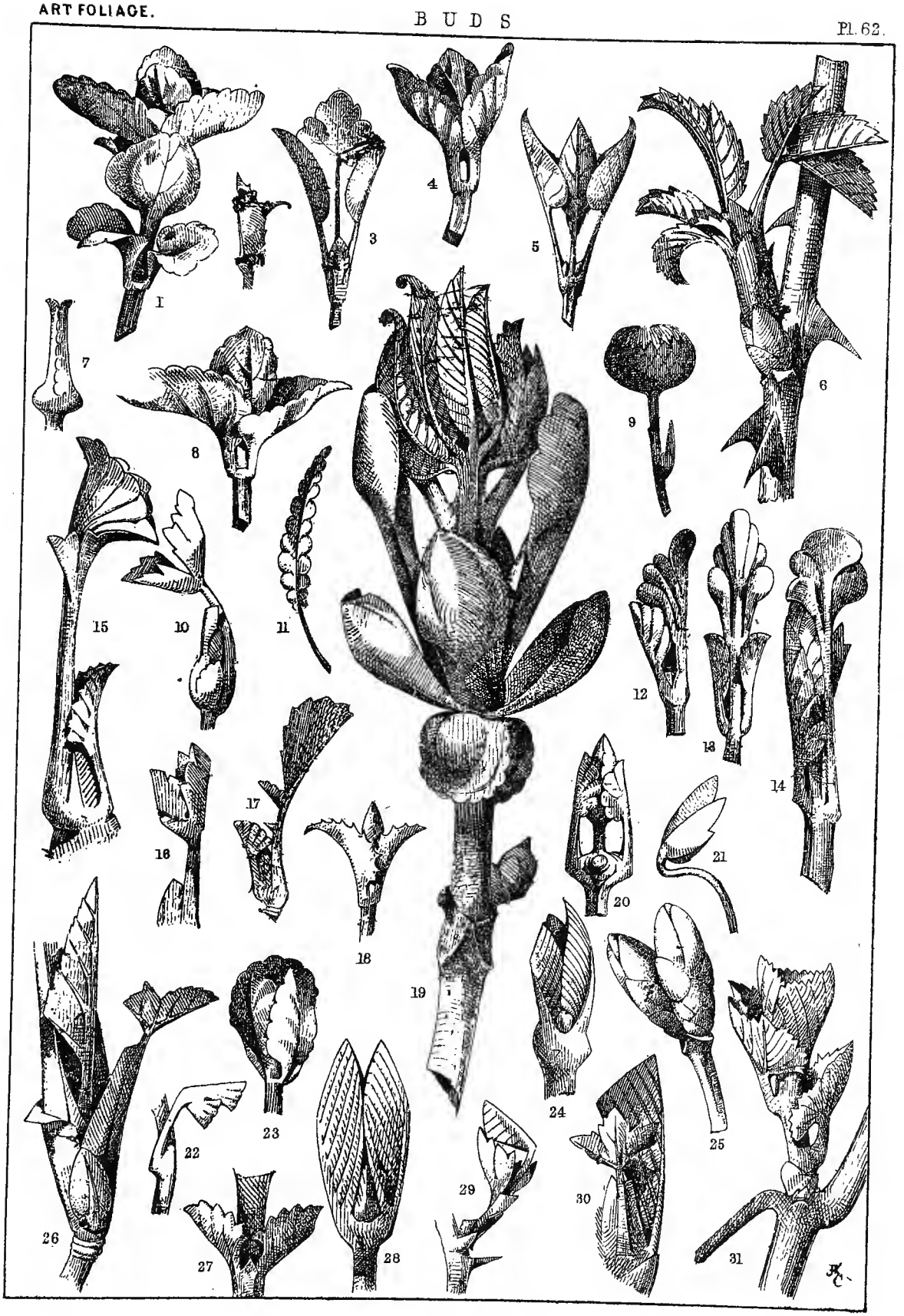
MAPLE AND HAWTHORN

Alternate and opposite

Branching

BUDS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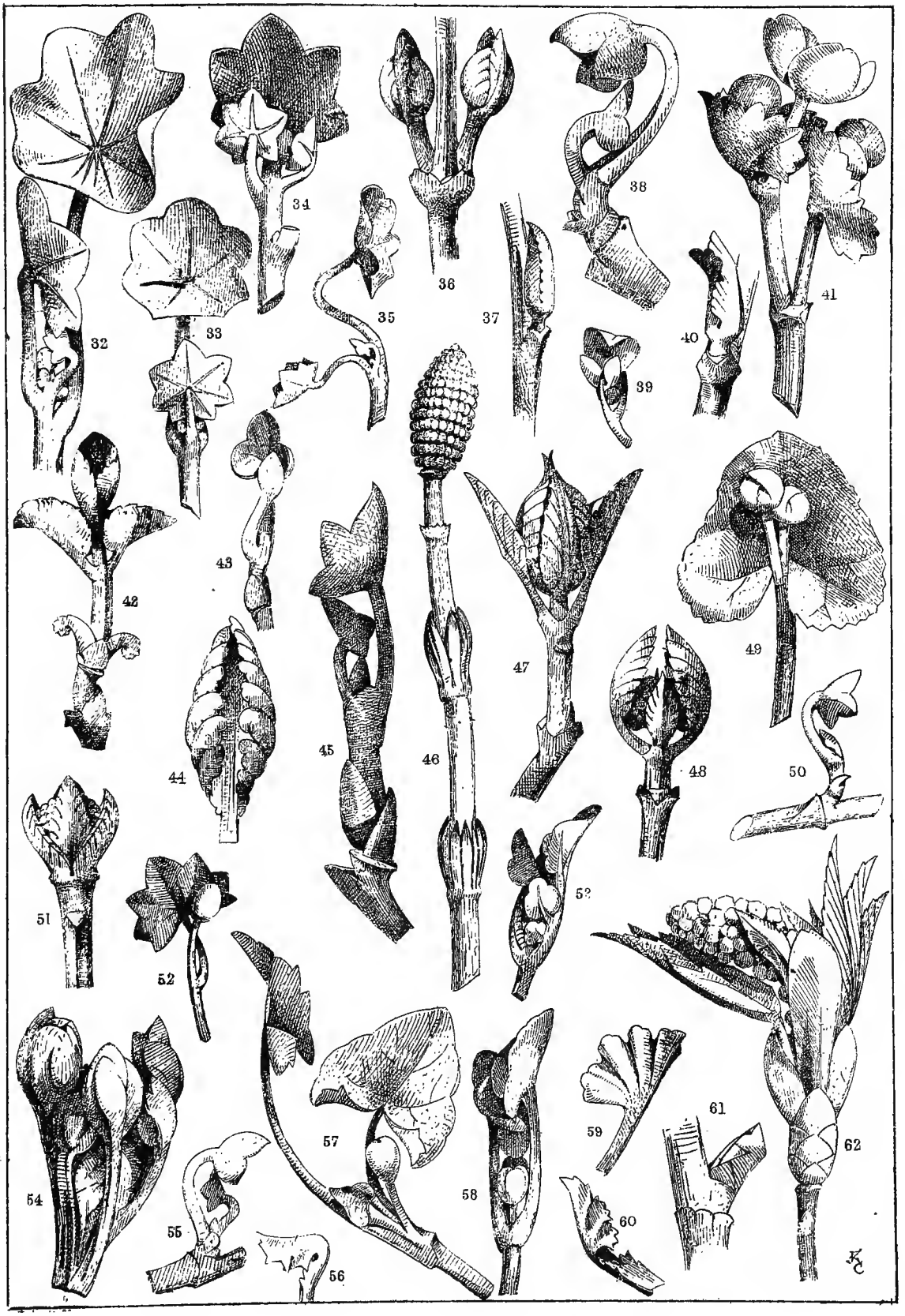
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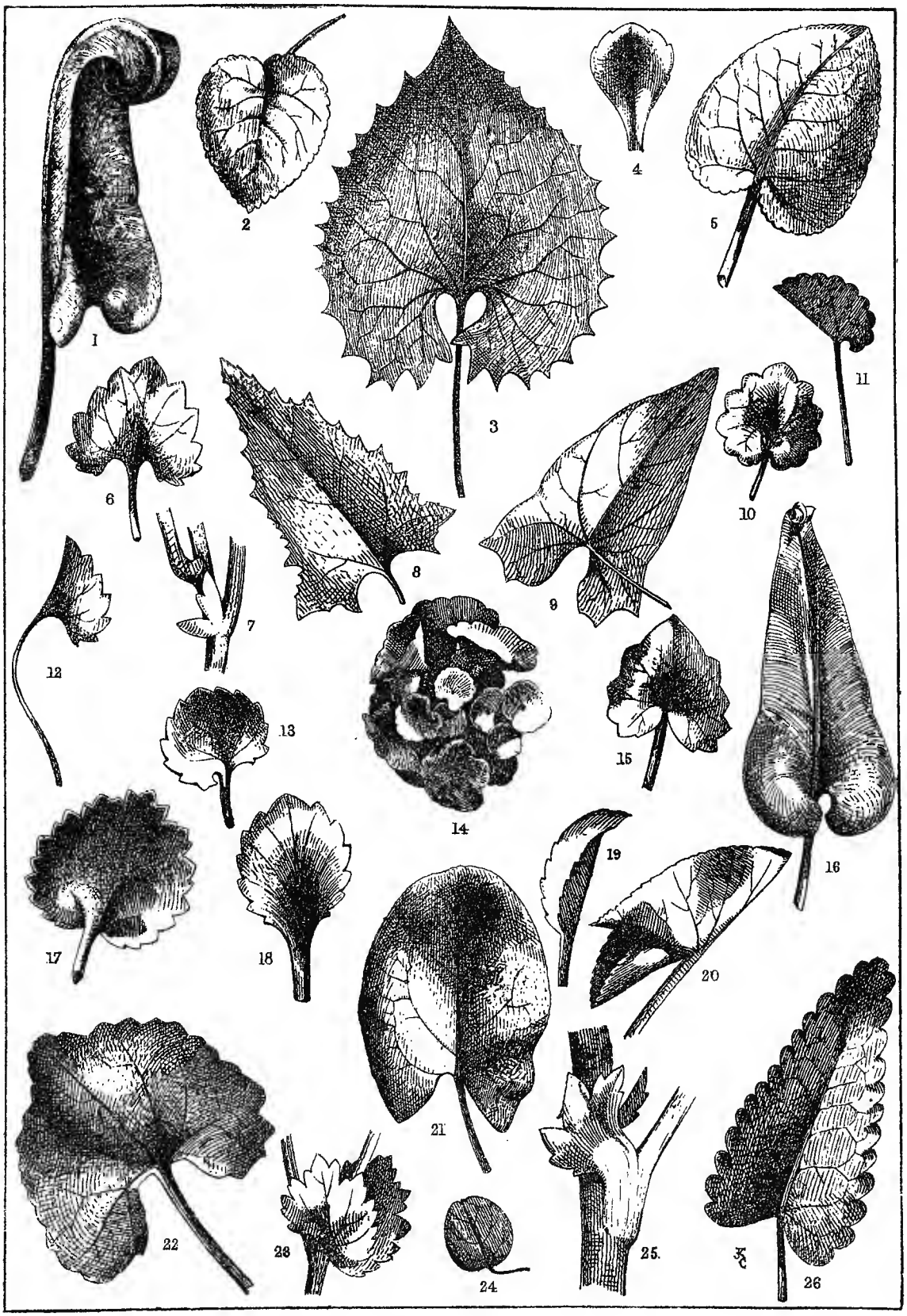
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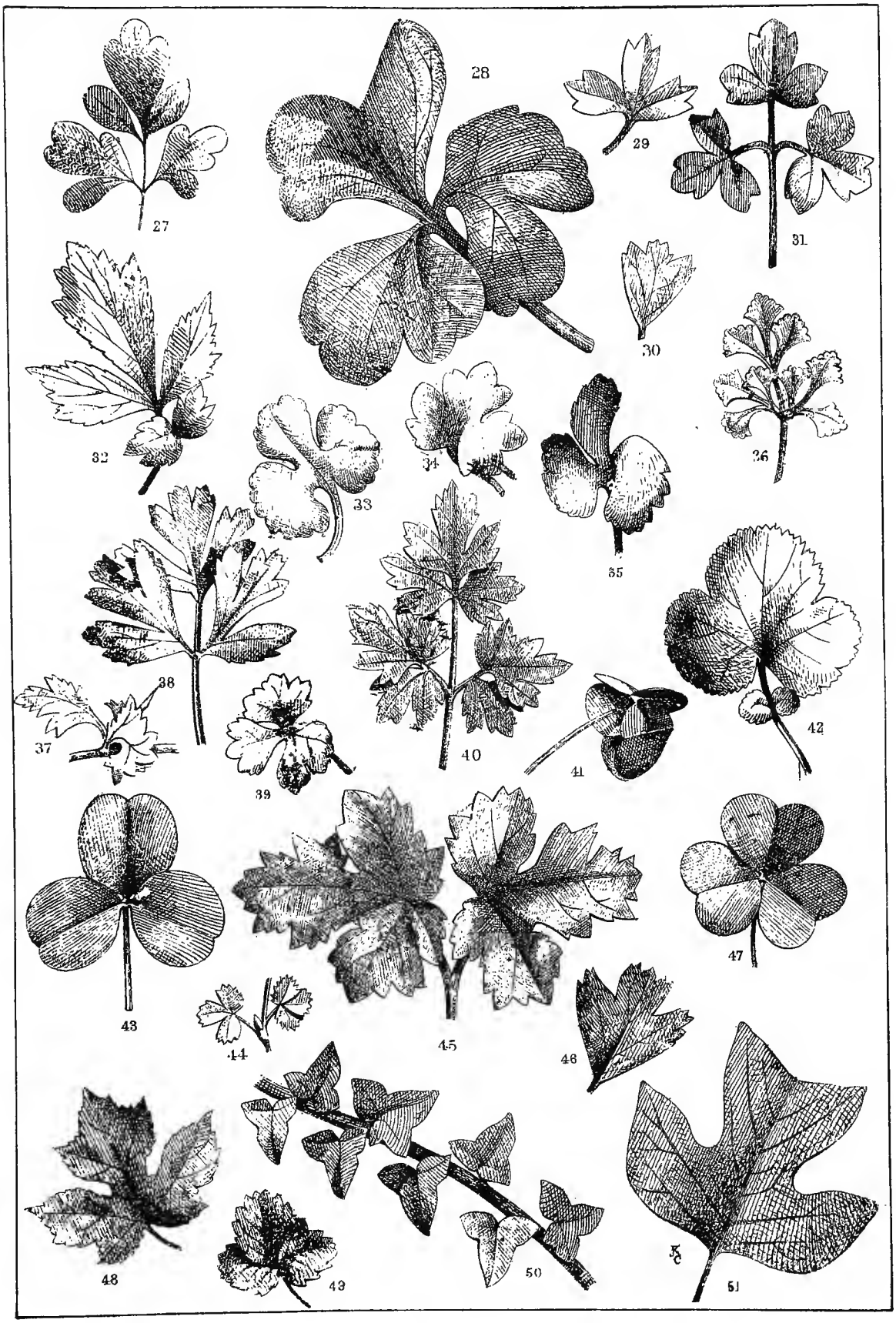
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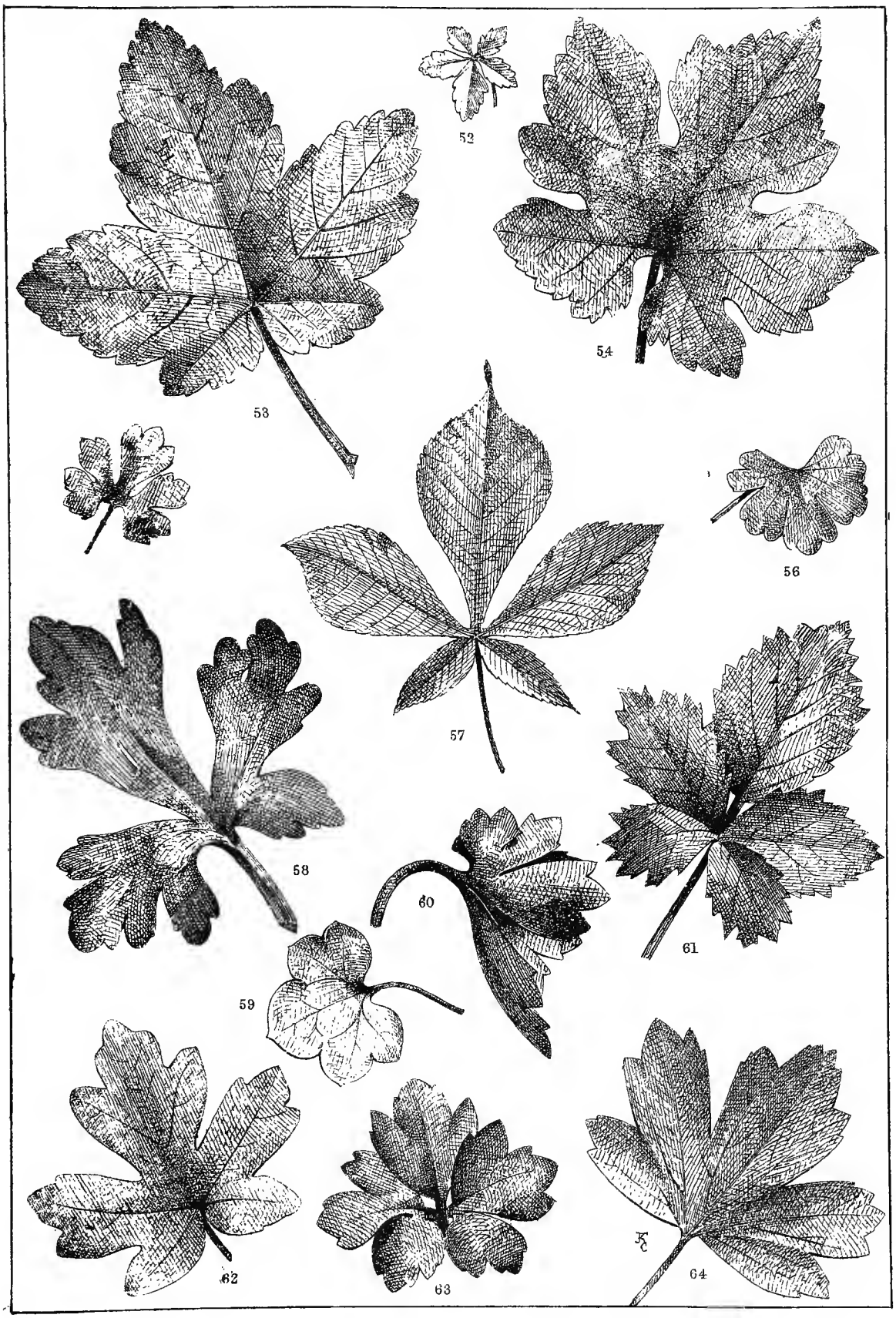
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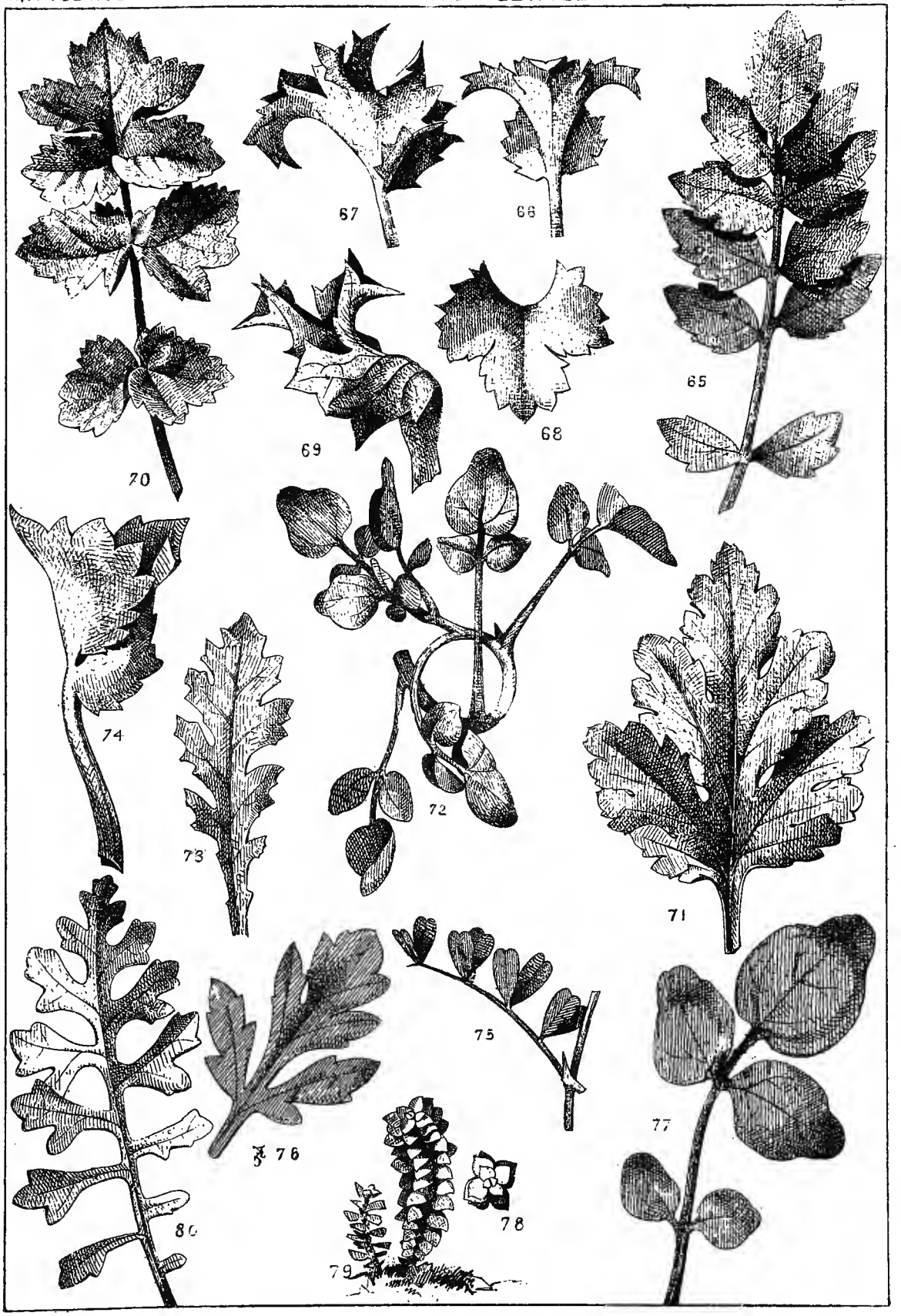
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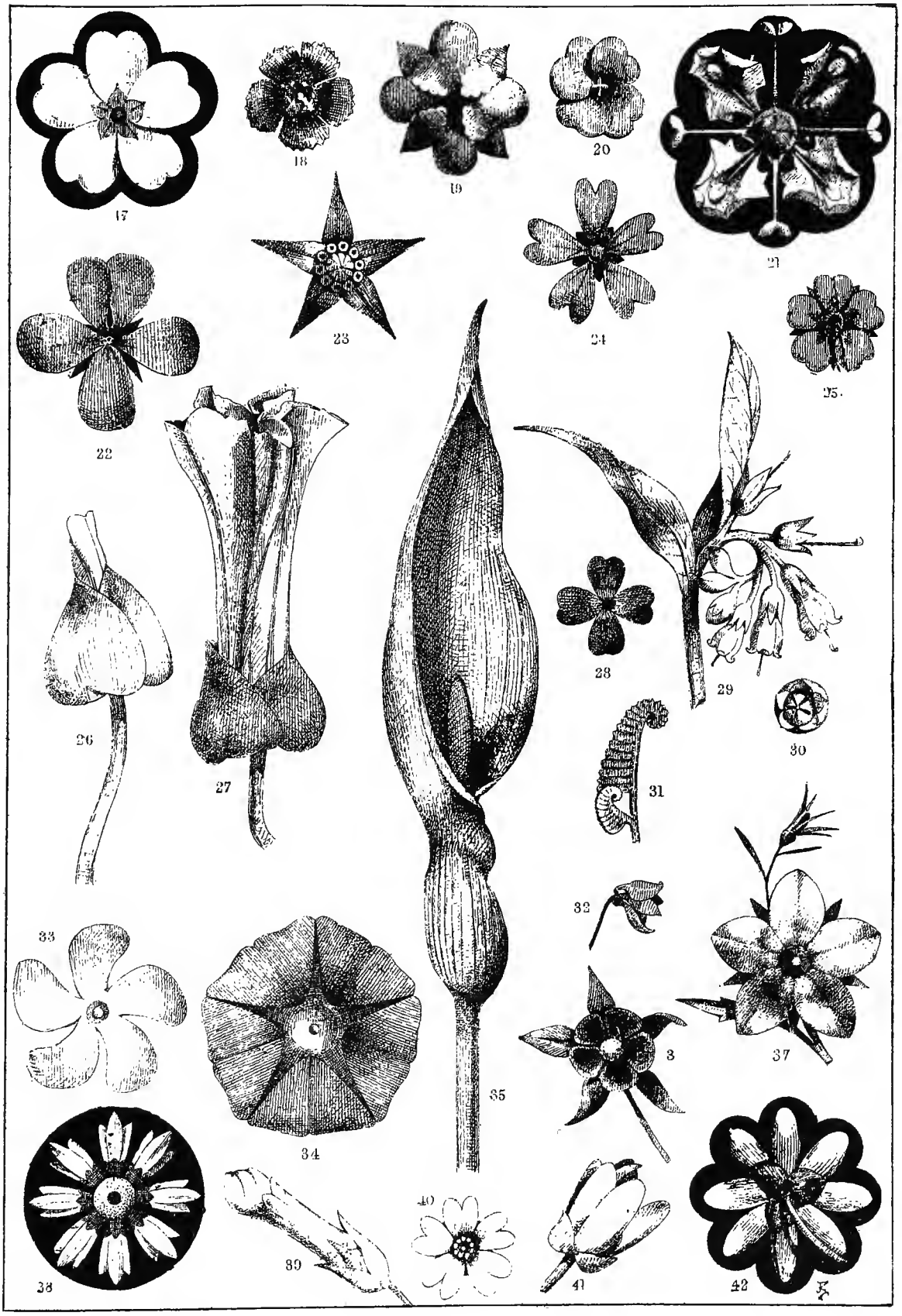
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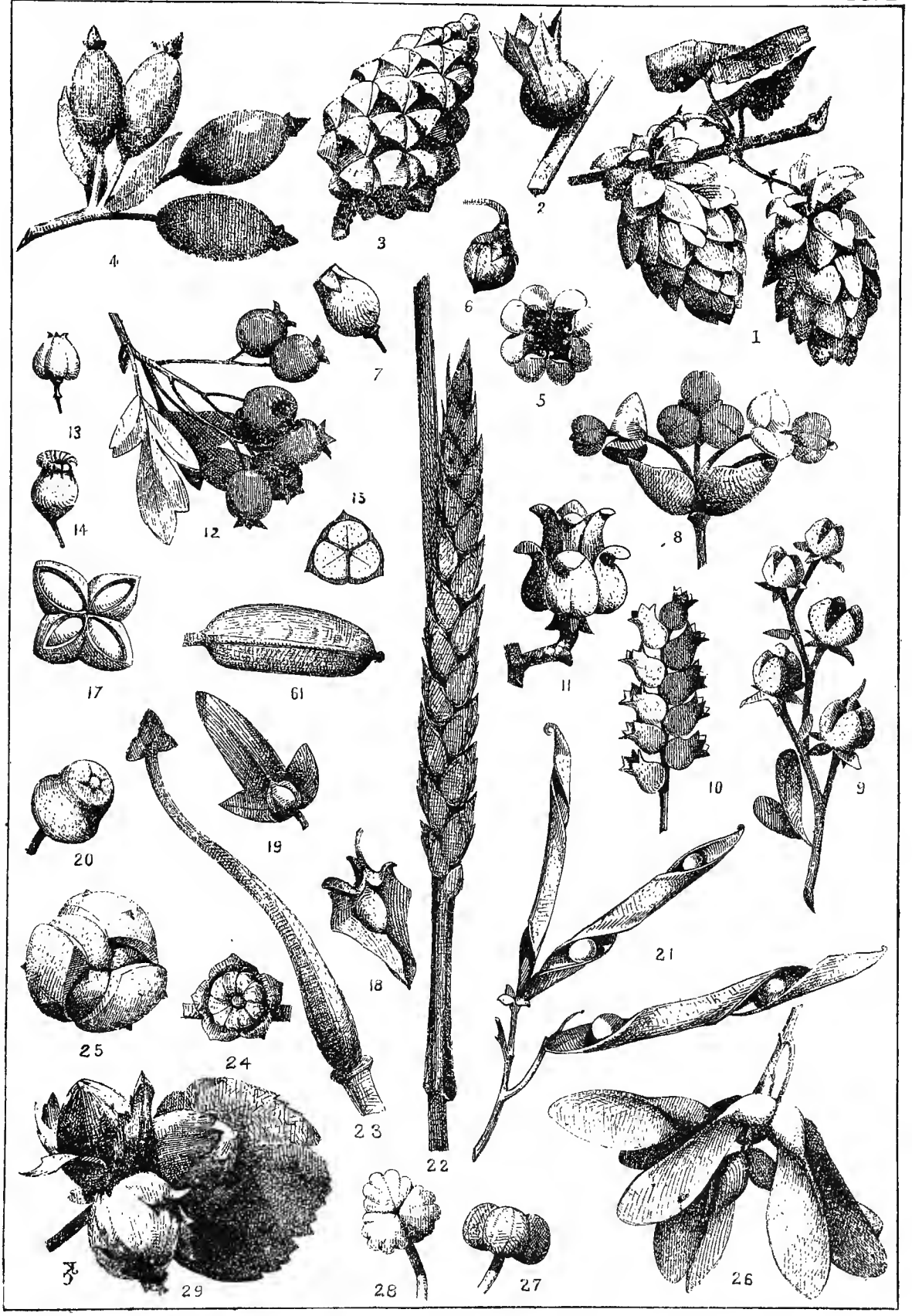
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